

AMERICAN AGRICULTURIST,

ADAPTED TO THE
Farm, Garden, and Household.

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EDITOR AND PROPRIETOR.

ESTABLISHED IN 1842.

{\$1.00 PER ANNUM, IN ADVANCE.
SINGLE NUMBERS 10 CENTS.

VOL. XIX.—No. 8.

NEW-YORK, AUGUST, 1860.

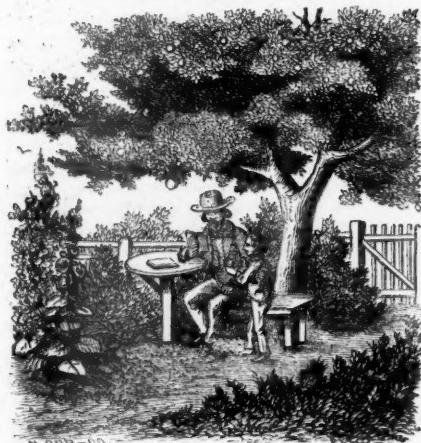
[NEW SERIES—No. 163.

Office at 189 Water-st., (Near Fulton-st.)
Contents, Terms, &c., on pages 252-56.

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American Agriculturist in German.

The AMERICAN AGRICULTURIST is published in
both the English and German Languages. Both
Editions are of the same size, and contain, as
nearly as possible, the same Articles and Illustra-
tions. The German Edition is furnished at the
same rates as the English, singly or in clubs.



August.

"The fervid splendor of thy mid-day sun
With wonder strikes me, though its fire I shun.
I love thee most, whene'er thy potent rage
Or Autumn's breath, or vernal gales assuage.
Though Nature pant beneath thy noon tide power,
How sweet the freshness of thy evening hour!
What time the night, throughout the gelid air,
Veils with her sable wings the solar glare;
Then loves the eye that shrunk before the day,
To drink refreshment from the moon-pale ray;
When modest Cynthia clad in silver light,
Expands her beauty on the brow of night,
Sheds her soft beams upon the mountain side,
Peeps through the wood, and quivers on the tide."

DELILLE.

Hot! Hot!! The whole air seems afame,
and man and beast seek the grateful shade where-
ever it can be found. You can see the heat quiv-
ering along the fences and the roofs of buildings,
like the breath of a furnace. A dreamy haze
hangs over field and forest, and mingles with the
skies. Distant outlines loose their distinctness,
and the softened sunlight bronzes every object
where it lies. The breeze is fitful, coming up be-
tween awful pauses of silence, as if the pulse of
Nature had ceased to beat. Look out over that
broad expanse of water. Not a ripple is visible

to the furthest shore. The sails flap idly against
the mast as the boat rolls in the lazy swell of
the sea. Not a sea bird lifts its wing; the white
gull no longer skims the air, and the fish hawk
slumbers upon his perch in the dead oak that
looks out upon the waters. Even the bees are
still enjoying their siesta upon the thistle down,
and now and then at long intervals, a shrill whirr—
a tread—a hum—a tap is heard through the dry
leaves, in grass and bush, as insect, animal, or bird,
rouse a little from their noon tide sleep.

The mood of Nature is catching, and we will
seek the shade while we rest from the labors of
the hay field not yet quite cleared of its burden
of grass. No great burden, say you, after this
long drouth. It is true the hay harvest has been
delayed all through the north for want of season-
able showers, and in the larger part, the crop
is light, varying from two thirds to three fourths
the usual yield. Not one farmer in fifty has
stored his usual quantity of hay. But the prin-
ciple of compensation runs through all the arrange-
ments of Nature, so that we may have occasion
for thanksgiving whatever our losses may be.

In short hay crops like the present, it is always
observed that the hay is of better quality, and
seems to spend better in feeding than when it is
of ranker growth. There is probably some rea-
son for this popular belief. There is no doubt
that grass grown in the open field is much better
than that which grows under the shade of trees.
And in the seasons of abundant rains, when the
grass grows so large, it is quite probable that it
does not have sunshine enough to perfect all its
nutritious qualities. It may be true in this sea-
son that three-fourths of a tun of hay will contain
as much aliment as a tun in a wet season. Then
it is a noticeable fact that in the years of a short
hay crop, we have other compensations. The
lack of rain in May and June is almost always
made up by abundant rains in the following
months. This makes an abundant corn crop, and
fodder enough to make up the lack of hay. The
after feed is also abundant, so that at the close of
every season, if we take all the products of the
farm into the account, the weather would not
make much difference in the aggregate yield of
each year. Especially is this the case where a
great variety of products are cultivated.

In years too cool for corn, the great grain sta-
ple of the country, wheat, rye, and oats are gen-
erally of better quality than usual, so that if corn
fall off a quarter, the deficiency is made up in
other grains. Dry Summers are usually followed
by wet Autumns, which are particularly favor-
able to the tap roots. The carrot makes more
than three fourths of its growth after the first of
this month, and will continue to grow until the
ground freezes. Beets, parsnips, mangel wur-
zels, and turnips, also grow late, and where these
roots are cultivated, the farmer has an ample re-
source for a short hay crop.

Seasons of excessive drouth are said to have

an ameliorating influence upon the soil—and the
opinion seems to be well founded. The tendency
of excessive rains is to wash the mineral con-
stituents of the surface soil downward beyond
the reach of the roots of ordinary farm crops.
Manures, especially in loose porous soils, work
downward, and a fraction of the soluble portions
are lost for present use. Lime is found to work
downward quite rapidly, and for this reason is
best applied upon the surface. This downward
tendency of fertilizing material is pretty conclu-
sively proved when we come to plow a field ten
inches deep, that has usually been plowed but
five or six. The breaking up of the old hard pan
enlarges the pasture ground of the roots, and
brings a great deal of new aliment within reach.

The drouth in part performs the office of deeper
plowing. The water line sinks deeper in all
cultivated soils, and the air pushes down after it
to occupy the space vacated by the water. Of
course, moisture must circulate through all this
aerated soil; and as the ordinary supplies are cut
off from above, they must come from beneath by
capillary attraction and evaporation. The theory
is, that fertilizing materials are brought up in
the water from the storehouse beneath. Every
thing that the water will hold in solution is thus
brought nearer the surface. However this may
be, the fact is frequently remarked that a season
of drouth is usually followed by one of more than
average productiveness. Then again, in years of
short crops the price of all farm produce is usu-
ally higher, so it often happens that the amount
realized is larger than in years of plenty.

There is much less occasion for complaint than
the family of grumblers suppose. Indeed we
suspect that if they could see the whole bearing
of what they term ills, upon their own interests,
their occupation would be gone. We sometimes
have unseasonable frosts in June, doing great
damage to the wheat and other crops. Such a
frost visited a large district in the Ohio valley last
year, and it was thought that the wheat crop
would be a total failure. But it is now conceded
by intelligent wheat growers that these frosts
destroy insects, particularly the midge, and re-
move one of the greatest hindrances to the cul-
tivation of this indispensable grain. We have,
in a circle of years, all that variety of seasons
which, on the whole, is most favorable to the pro-
duction of food and raiment for the race. Even
the ills and disappointments of the husbandman
will be found in the end to advance his interests
if he make a wise use of them.

"All Nature is but art unknown to thee;
All chance, direction, which thou canst not see;
All discord harmony not understood;
All partial evil, universal good."

Whether we can see it or not, there is a be-
nevolent Providence above the drouth, the
frost, and all seeming evils, using these untow-
ard agencies to promote the comfort and hap-
piness of all His creatures.

Calendar of Operations for August, 1860.

We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 35° to 45° ; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the North, later for the South.

EXPLANATIONS.—*f* indicates the first; *m* the middle; and *l* the last of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

With August the heaviest farm work of the year closes. The plow and the cultivator have been succeeded by the reaper and mower, and these have completed their task, or are rapidly securing the ripened harvest. There is no time to be lost if the hay and grain are yet in the fields. Grass left to pass out of bloom and to ripen soon, becomes hard and woody, more like 'browne' than the sweet and tender stalk so well relished by stock, and so well fitted for their Winter nourishment. Grain cut when each stroke of the cutting blade shakes out the fully ripened and best kernels, is wasted in the gathering, and less valuable than if secured earlier.

When the harvest is completed, the first work should be a general clearing up and improvement of the fields for next year's cultivation. Draining, stump pulling, removing stones, rooting out hedge rows, reclaiming waste land, or fencing, will profitably employ many days on most farms. Now too, while the mucky deposits are comparatively dry, there is opportunity to secure material for manure to be worked over at leisure.

The roadsides where noxious weeds are ripening their seeds should be neglected no longer. The turf that may be collected while plowing out the weeds, will, if added to the manure heap more than repay the labor. Such labors will fully occupy the time before fall plowing commences.

Barns, sheds and other buildings where hay and grain are stored, should have free ventilation. Repair wherever necessary to exclude rain. Keep the barn floor free from "scatterings." Thresh out and clean gleanings from the grain fields. Exclude fowls from the floor or the hay mow—they add nothing to the cleanliness of the winter feed. Construct proper drains to carry the wash of the yard to the manure cistern, or to distribute it over the fields—the roadside is fertile enough without enriching it from this source.

Bushes and young sprouts left when mowing, should be rooted out. Tear out all hedge rows, or if time can not be taken for this, level them with the ax and bush hook.

Butter to be packed for storing or transportation, needs extra attention during the sultriness of dog-days. Keep the milk room cool and well ventilated, and remove everything from the neighborhood of the dairy that would cause an unpleasant effluvia. Observe scrupulous cleanliness, and frequently scald utensils to keep them sweet.

Cattle—Keep them in good condition by supplying deficiency in pasture with cuttings from the soiling patch. Allow them free access to water. If any show symptoms of disease, separate them from the herd at once.

Collars—Give free ventilation and allow nothing to decay there.

Corn if properly attended to during the season, will not be much troubled with weeds now. Plowing among the rows will be injurious by breaking the roots. If any cultivation is needed let it be near the surface, with the hand or horse-hoe.

Draining—Improve the comparative leisure after haying and harvest, by reclaiming swamps which are now dry, and by laying tile or stone drains where needed. If there be not capital enough to bring all the land to high cultivation by this and other improvements, sell half the land and lay out the money on the remainder.

Fences—Erect new lines of permanent fence, using stones from the land if they can be obtained. Remove those around which hedge rows have sprung up, if the bushes can not be subdued otherwise. Keep all in good repair, especially about pastures.

Forests—Now is a good time to cut away the forests to increase the tillable land. After felling and trimming up the trees, draw out the heavy wood with oxen and spread and burn the brush, *m*, *l*, to prepare the ground for Winter wheat or rye.

Gleaning—Pass over the wheat and rye fields with the horse-rake after the harvesting, and secure the scatterings. This is more economical than to turn in cattle and hogs, which will glean but imperfectly.

Grain is safer when threshed and stored in the bin, than exposed in the stack to the depredation of rats and mice. Thresh early, and market as soon as remunerating prices are offered. Secure granaries from vermin. If weevils appear, fumigate with sulphur.

Hay.—Cut, *ff*, any remaining until now. Coarse wild grasses unfit for feeding are valuable for bedding and manure. Secure salt marsh hay and sedge, *m*, *l*, during the neap tides of this month, and draw to the sheds, or stack upon upland.

Health.—Hot weather is not necessarily unhealthy. Excessive fatigue, neglect of cleanliness, want of ventilation in sleeping rooms, improper food and more frequently exposure to drafts of air when heated, are the causes of diseases incident to the season. Temperance in eating, drinking, and working, cleanliness of house and of person, and care to avoid exposure, will do more than pills or powders to preserve health.

Horses keep in better condition for work in well ventilated stables with regular feeding, than turned loose in unshaded pastures to be tormented by swarms of flies. They may be turned out at night and put up in the day time. Keep their legs free from the eggs of bot flies. Do not overheat breeding mares sucking foals. Accustom colts to be handled while young.

Insure barns filled with the year's produce and other outbuildings as well as the dwelling. A single stroke of lightning may otherwise sweep away the whole.

Manures will soon be needed for the fall plowed grounds. Turn every source for their manufacture to profitable account. Fork over the compost heaps under cover, to prepare them for carting out. Good and profitable soil culture commences in the manufacture of an abundant supply of plant-food. Read the "Scientific and Practical Talks on Manures," now in course of publication.

Meadows—A top dressing of well composted manure applied to thin spots shortly after mowing, will serve as a mulch to protect the feeble roots, and will give a vigorous start for fall feeding. Keep stock from mowed fields until the grass has a strong start; it should not be fed too close. Remove rocks by blasting or sinking, and take out all bushes, sprouts and briars.

Millet or Hungarian Grass—Cut for feeding green to stock, or for curing for Winter use. If intended for hay, it should be cut before the seed ripens.

Muck—Draw out as large a quantity as can be used in composting with stable manure, and for saturating with the drainage of the stables, cattle yards and sinks. Store it in a heap near the barn, to be used as wanted. Exposure to sun and air will prepare it for use.

Oats—Complete harvesting as soon as sufficiently ripe. The straw well cured, but not burned up by sunshine, is worth more for feeding than poor hay.

Pastures—Allow no fields to be fed too closely. Pastures are "run out" quickly by this process—unprotected roots are burned up during drought.

Potatoes—Harvest early sorts, and prepare the ground for fall sowing. A crop of strap leaved turnips, or late cabbages may be secured in favorable locations.

Poultry may be allowed to run at large as soon as the grain fields are cleared. They will fatten upon the scattered grain, the grasshoppers, and other insects.

Root Crops—Run the cultivator between the rows sufficiently often to keep weeds down and the soil light. Thin the turnips sown last month. Dust with soot, plaster or ashes to drive away the turnip fly.

Rye—Harvest, *ff*, any remaining. Plow ground for fall sowing, next month. If sown too early, the growth will be too rank before Winter. Plow deeply, bringing up, say an inch of the subsoil.

Seed Wheat and Rye—The earliest and best portions of the field should be left to ripen fully, and harvested separately. Remove all weeds from the swaths before binding. In threshing, which should be done with the flail, strike long enough to beat out not more than two thirds of the grain, which will be the plumpest and best part. The remainder can be threshed clean afterward.

Sheep—Give good range of pasture, separate males from the ewes, and turn the lambs by themselves or with the yearlings, to give the ewes a chance to recruit. Examine the udders of the ewes when weaning their lambs, to prevent their becoming caked. Salt freely, and apply tar to their noses to repel the fly. Read "Sheep Husbandry," on a subsequent page in this number.

Swine—Those kept in the pens should have grain sufficient to keep them growing and to prepare for early fattening. Late pork usually brings less per lb., and requires more feed to make it. Allow them a liberal amount of green food. Pea vines with the fruit, are much relished by them.

Timber—Improve spare time this month in cutting

building, or fencing timber for future use. It is a favorable season of the year for its durability.

Timothy sown by itself this and the first of the following month, will, under ordinary circumstances, give a good yield next season. Many successful cultivators prefer this to sowing with Winter grain. If the latter be done, the following month, or early Spring is preferable. Use from eight to twelve quarts of seed per acre, according to circumstances.

Tobacco will need cutting, *ll*, in some localities.

Turnips—Strap leaf or flat varieties may still be sown *ff*, among corn, after early potatoes, or on other unoccupied ground.

Water—The present is a favorable time for digging wells. Water reached now will probably remain permanent. If possible, have the barn and sheds supplied with drinking troughs to which the animals can have free access in Winter. Where good drinking water can not be obtained from springs or wells, filtering cisterns will be found of great value. We prefer water from this source to that from any other.

Wheat—Prepare grounds for sowing early next month. At the north it may be put in, *ll*.

Orchard and Nursery.

The abundant yield of almost every variety of fruit the present year has been most encouraging. Northern markets have generally been well supplied with good fruit, but the prices for the best sorts are still such as to keep them beyond the reach of thousands. There is yet abundant room for fruit growing. Now that such facilities are possessed for preserving fruits cheaply for Winter use, there is little danger of an over supply.

Budding is now in season. This method affords a ready means of securing improved varieties. Commence the work as soon as the bark will peel readily, and the buds are fully matured. Pears, apples, cherries, peaches and nectarines, are about the order in which the different trees are ready to be budded. Select in all cases strong healthy stocks and fully developed buds. By way of curiosity, a few specimens may be budded upon stocks differing from their own kind, as the apple, the pear, and quince, upon one trunk; the peach upon a plum stock, etc. For dwarfing the apple, choose the Doncastor or Paradise stock; for the pear, the Angers quince stock. Label all budded trees plainly, and also keep a record of them. Round off stocks budded last year, *ff*, if not done previously.

Fences—Keep in repair. By a little neglect marauding cattle may in an hour destroy, or greatly injure, the choicest young trees.

Hoeing should be continued between the nursery rows and around the trunks of trees in the orchard as long as weeds continue to start, or when the surface of the ground becomes dry and crusted.

Inarching may now be performed upon many tree and shrub species.

Insetts—Borers are busy in the apple and peach trees. Examining frequently for their marks, and destroy them. Late caterpillars abound in many sections, and the second crop of many insects infest the branches and leaves. Apply whale oil soap and other suitable remedies.

Layering—The growth of the present season is now sufficiently advanced for this operation. Peg down *ff*, *m*, *stools* and plants intended for propagation in this manner.

Overloaded trees should have the fruit thinned, or the branches properly supported by tying to stakes. Peach trees, especially, are liable to have the branches split down from the trunk during sudden gusts of wind occurring at this season. Used forked sticks, with cloth, matting, or hay bands to prevent chafing.

Peaches, pears, and other fruit now ripening, if for market, should be picked before softening, to prevent bruising. They may be disposed of to better advantage if left to ripen in the care of the dealer. Have all baskets properly marked. There is nothing gained in the end by such deception as "topping" baskets of inferior fruit, with a better sort. "Honesty is the best policy."

Pruning—Complete this work this month, according to directions given in the previous number.

Seedling trees of all kinds should be kept free from weeds. Partial shading with screens made of flats, or with branches of trees is beneficial, particularly with evergreens.

Evergreens may be transplanted during the latter part of this month, though May is preferable. If done now, mulch and give plenty of water if drouth prevails.

Water seedling beds when needed, applying it at evening. Choice trees suffering from drouth should also be supplied. Dig near the tree, to a depth of six inches or more, pour in the water, cover the place with dry earth, and apply mulching to retain the moisture.

Weeds are neither useful nor ornamental, keep them in their place, with their roots in the air, or better, bury them in the compost heap.

Kitchen and Fruit Garden.

As the season advances, the importance of this part of the homestead becomes more and more apparent, particularly if the labor of previous months has been well done. While enjoying a profusion of garden products, provision for the future should not be neglected. Many vegetables, as peas, beans, corn, tomatoes, etc., can be successfully preserved for winter use, by cooking and sealing up in airtight vessels. The market gardener will find full employment in disposing of the ripening crops, and in preparing ground for future use.

Asparagus—Gather and clean any ripened seed, which may be sown at once; or kept until Spring. The beds now covered with a thick bushy growth, need little attention except to pull out rank weeds by hand.

Beans—Plant a few of quick growing varieties, ff, for late use of the pods for cooking or pickling.

Beets—Pull from the thickest parts of the bed for use as wanted. Thin to six or eight inches apart. Weed those sown last month. Mark by stakes the earliest maturing, to be saved for seed.

Blackberries—Pick as fast as they ripen. The New-Rochelle variety turns to a dark color several days before fully maturing, and should remain till it parts easily from the stem, to secure the highest degree of sweetness and flavor. Preserve in bottles, or dry them for future use. They may also be profitably manufactured into wine.

Cabbages, Cauliflowers, and Broccoli—Set out remaining plants for latest crop. Hoe often around former plantings. Sow seed, f, m, for Fall greens.

Celery—Set remaining plants in the trenches, ff. Water the bed thoroughly an hour or two before removing, and take up plenty of earth with the roots. Let the earth be slightly rounded up in the middle of the trenches, to prevent dirt washing from the sides into the crowns of the plants. Earth up former plantings when they have attained a vigorous growth of leaf and stalk.

Corn Salad—Sow, ll, for Winter use.

Currants and Gooseberries—Prune as soon as the fruit is gathered. Take out decaying and barren wood, and shape to a good head. The cherry variety bears most of its fruit near the ends of the branches, and will not bear severe cutting back. Other sorts need pruning to induce fruit bearing.

Cucumbers, Melons, Squashes and other vines need heading back after a sufficient quantity of fruit is set. To secure very large growth, thin out the fruit, leaving but two or three specimens. Boards or straw placed under melons will keep off worms, and add to the flavor of the ripening fruit. Turn the best specimens occasionally to ripen equally on all sides. Pick cucumbers for pickles as they attain proper size.

Espalier or Wall Trees—Train the branches to their proper places while young, and cut out superfluous growth. Syringe the foliage during drought.

Grapes—Train the leaders to the trellis. Leave foliage sufficient to supply the wants of the fruit. Where the ends of the bearing branches have been nipped off as directed in previous months, the side shoots will have started, and need to be shortened in, ff. They should not be disturbed after the berries have completed stoning and commenced their second swelling. Destroy worms and insects by hand picking.

Herbs—Complete gathering and drying, ff, m.

Hops—Pick during dry weather as they ripen, spreading until perfectly dry, when they may be put in bags and hung away for use.

Lettuce—Continue to sow and plant out for Autumn use.

Mushroom beds may be made, m, ll. Collect materials, f, m.

Onions—Gather for use or for market as they ripen. Handle with care to prevent bruising. Sow, ll, for "pips" to be left during winter for early summer use.

Peas for latest use may be sown in this latitude, ff. Clear ground from early crops and sow with turnips. The haulm or straw will be relished by swine.

Potatoes—Dig early sorts for market. Take them from the ground only as wanted, and keep them from exposure to the sun. The ground may be used for quick growing turnips, etc.

Preserving fruit, vegetables, etc., has been fully described in former numbers. Put up a full supply for winter use.

Radishes—Sow, f, m, for late use.

Raspberries—Remove bearing canes as soon as the fruit is gathered. Select the two, or at most, three strongest

of the new shoots to the hill, for bearing next year, and cut out the others, unless wanted for setting out. Keep out weeds, and hoe in a little well composted manure or leached ashes. Head back canes that grow too rank—four or five feet is high enough.

Seeds—Collect as fast as they ripen, label them distinctly, put in boxes and keep dry, dark, and out of the reach of vermin. The year of raising should be marked on each package.

Spinage—Sow, f, m, l, for Autumn use, and ll, for a Spring crop. Scatter a little lettuce seed among it.

Strawberries—Read article on page 243. The runners of those intended for hill culture will require clipping now.

Tomatoes—Follow directions of last month. Look out for the tobacco worm, which feeds also upon this plant. If they are troublesome remove them by hand.

Turnips—The flat or cow-horn varieties may bring a good yield if sown, ff. For ruta bagas it is rather late.

Water from the sink, or the wash tub, is a good application for currant bushes, gooseberries, strawberries, etc.

Weeds add nothing to the beauty or the productiveness of the garden—add them to the manure heap.

Flower Garden and Lawn.

Although many of the early flowers have completed their blooming period, a large number yet remain, many of them of decided richness, which are gay with a profusion of brilliant hues. It has been truly remarked that the late bloomers exceed in beauty of color and outline, most of the early flowers. By exercising a little care and forethought, a fine succession of bloom may be kept up from Spring until late in Autumn. A judicious selection of varieties, sowing at different seasons, and nipping the young plants back to retard a portion of them, will accomplish this object. Especially is it desirable to have a goodly collection of those sorts which flower continuously, or at intervals during the entire season, as the verbena, fuchsia, geranium, petunia, monthly and remontant roses, etc. Many plants, blooming but once in a season, ordinarily would flower the second time were the seed capsules removed as soon as formed; the plant would then push into vigorous growth for a short time, and soon develop new flower buds.

Now is the time to note the peculiarities of new plants, their habits of growth, form and color of flower, etc., and to mark those specimens from which it is desirable to save seed. A small string or piece of bass matting tied to the plant indicates that it is intended for seed. As fast as others complete their blooming season, cut them down, if perennials, and pull them up if annuals, to give place to others. The value of a previous suggestion to have late sown plants in the vicinity of, or ready to transplant to spaces otherwise vacant during the remainder of the season, will now be seen.

Box edging should early receive its final clipping for the season, so that it may be prepared to withstand the frosts of winter.

Budding—This is a proper time to bud the rose, but the practice can only be recommended on a small scale for amateurs. The buds often die out in a few years. Oranges, lemons, magnolias, and many of the flowering shrubs may also be budded, ff, m.

Bulbs—If left in the ground until now, and still to be set this season, lift and dry, ff. They may be set out, ll, or better during the latter part of next month, if they keep well.

Dahlias should now show a fine bloom of choice colors. Keep well tied up and prune where growing too thickly. One, or at most two good flower stalks, per root, is sufficient. Frequent waterings and a mulch about the roots in dry weather will benefit them. Cut away the dried flowers as fast as they lose their beauty. Watch for and destroy insects, especially the greyish worm which bores into the stalk and feeds upon its juices.

Fuchsias—A mass or bed of the different varieties, now in full flower, can not fail to please. We regard them as among the finest floral gems of the garden. They do well in a partial shade, which also prolongs their blooming season.

Gravel Walks—Strew salt over occasionally. It will assist in destroying both weeds and insects, and serve to unite or compact the gravel. Hoe or pull any weeds which persist in growing.

Hedges—Clip, f, m, unless it was done during the latter part of last month. Cut away from the top, so as to thicken up the bottom. Leave in good shape, as this should be the last shearing, especially upon evergreens.

Hoe often all cultivated grounds, walks, etc., removing the weeds and leveling with the rake. Even if there are no weeds, the soil should be stirred to keep it from crusting, and prepare it to absorb rain and dews.

Insects—Do not let them increase by a second crop, at

this season. Even if they have done all their injury for the season, allow none to weave their cocoons and remain for a propagating stock another year.

Layers of many of the woody plants can still be made with a probability of their rooting before Autumn. Use wood of the present season's growth. Shoots laid down in early Spring, if well rooted, may now be severed from the main stock.

Lawn and Grass Edgings—Mow evenly when 6 to 8 inches high. Frequent cutting causes it to thicken at the bottom. A sprinkling of guano water, or liquid manure, after cutting, will cause the grass to start with vigor. New lawns may be sown, ll, adding a little winter wheat, or rye, to protect the roots during the Winter. Having used perennial Rye Grass with good satisfaction, we are prepared to recommend it. We have discarded the old directions to use a large variety of grass seed, and now prefer a single sort.

Mignonette sown, ff, will form fine plants for Autumn and Winter blooming in doors.

Pelargoniums—Start cuttings, ff, m, for a winter stock to bloom in doors. Thin out and head back plants to give them a good form.

Potted Plants require frequent waterings at this season. Loosen the surface soil occasionally, and remove weeds. This is the proper season to pot a stock for winter blooming.

Prune Shrubs and Trees upon the Lawn, or borders, if necessary, always using the knife sparingly upon shade trees, although where it is to be done, this is a suitable month for the operation. Almost any desired shape may be given to a lawn tree by heading back in one place, tying in another, and pinching elsewhere. Fantastic forms are sometimes given evergreens by shearing to the shape of animals or other objects.

Roses—Continue the oil soap mixture as long as slugs or aphides are troublesome. Early in the month is a proper time to bud roses. Layering may yet be done, using shoots of the present season's growth. Many of the Remontants are now in bloom the second time.

Verbenas and Petunias—Layer, ff, m, for Winter and Spring blooming in houses.

Water—Give to potted plants especially, and those newly planted out. If very dry, an application both morning and evening will be beneficial to those which absorb rapidly. It is better to mulch the ground before watering.

Weeds—Keep from the borders, walks, and also from growing among the grass upon the lawn.

Wild Flowers—Many of these are now in bloom. Note the desirable kinds and mark the spot where they are to be found to be transplanted at the appropriate season. The peculiarities of soil, shade, moisture, &c., where they grow naturally, should be borne in mind for future guidance.

Green and Hot-Houses.

As most of the plants are in the open grounds, there is little to do inside the houses this month. It will be well, however, towards the close of the month, to put every thing in order for the reception of plants, as a cold spell in September sometimes makes it necessary to carry the tender plants inside, and the houses are much more easily and safely cleansed, painted, whitewashed, glazed, etc., while empty. In extensive collections, some plants are usually left inside the house during the Summer, to have better control over sun and shade, heat and cold, dryness and moisture. These will require daily care, giving them plenty of air and frequent waterings.

A good supply of potting earth should be prepared, both for present and future use. It is better after having lain in the heap some months, hence a large stock should be provided. A good potting soil is made of 3 parts muck, or leaf mold from the woods, 1 part loam, 1 part sand, and 1 part old manure.

Budding—This is the proper month for budding most of the woody plants, particularly oranges, lemons, camellias, etc. Inarching may also be performed.

Callas—Repot, f, m, watering moderately.

Camellias—Complete repotting and bud, or inarch those plants which are to be changed.

Cuttings—A large number of plants should now be started by cuttings. A frame, in a somewhat shady position, is the best place for them. The soil should be light, well worked, and the plants watered frequently. Many cuttings which would not grow in the open grounds, can be successfully struck in this manner.

Geraniums strike very freely even in unprotected ground. Put in a good stock of the choicest varieties, especially the Tom Thumbs.

Grapes—Some of the early houses have already ripened their crops, and the vines want hardening off, by throwing open the doors and ventilators. Later plants need

some pinching and watering. Watch the approach of mildew, using sulphur to check it.

Houses—Commence early to put them in order, before plants are brought in. Repair shelves and beds, glaze windows, cleanse the whole house thoroughly, have ropes, weights and pulleys in working condition, look to the heating apparatus, and lastly paint those houses requiring it, being careful to empty from them all tender succulent plants at the time, else the poisonous gas from new paint will cause defoliation.

Insects—Keep in check as recommended under "Flower Garden." If they have established themselves in the houses, syringe thoroughly, and if not effectual, fumigate with tobacco.

Manure—Give in liquid form to plants growing in pots, especially to those of unthrifty growth.

Potting—This is the appropriate season for shifting generally, and potting off seedlings. Complete early, that they may become established before Winter. See that a good heap of properly prepared potting soil is in readiness, as large quantities will be wanted before all the plants receive their final change for the Winter.

Seeds—Collect as they ripen, and carefully label or plant according to their character. Calceolarias, cinerarias, sweet alyssum, mignonette, pansies, daisies, etc., may be sown now for winter blooming.

Tender Plants, and some of those intended for early Winter bloom should be taken to the houses, II, before chilly nights come on.

Water—Give abundantly inside, and to pots in the border. Syringe the foliage and walls of the house both morning and evening, sprinkling the floors at the same time.

Apairy in August.

BY M. QUINBY.

When surplus honey in glass boxes is intended for market, it should be taken from the hive before any of the darker honey, made from Buckwheat, is mixed with it. Boxes that are only two thirds or three quarters full, are often worth as much as if finished with buckwheat. This, being put in last, will be on the outside, and the box will appear as if all of that quality. For home use, unless it is desired to have it purely white, it may remain till the combs are finished—sealed up—before removing it.

Bees will collect buckwheat honey nearly all of this month, and where the crop is general, swarms may be expected occasionally from the 10th to the 25th. Where they do not have access to these flowers, they will perhaps add nothing more to their stores. The honey in such boxes as are only part full—cells not sealed—will be likely to be carried down into the hive. This should be removed at once, unless additions to their Winter stores are needed. Full boxes, of course, should be removed without delay.

When glass boxes are put on a hive, there should be a fair prospect, at least, of having honey stored in them. Weak colonies will often only go up into the boxes, and smear the inside with just enough propolis to injure its appearance another year. Moth eggs will not hatch in boxes of honey laid up for Winter, when kept sufficiently cool—a good cellar, if dry, will do—dampness injures the honey : keep dry even should the worms hatch. Watch for them, and smoke with brimstone on their first appearance..... Divide any buckwheat swarm that may issue this month; give the half containing the queen to any stock that remains queenless; and return the other half to the parent stock. Particulars for the operation were given in the *Agriculturist* in August last year. Continue to place vessels filled with sweetened water about the hives through this month. Any old stock very much reduced by over swarming, or other cause, that has a queen, and is otherwise healthy, will probably need much assistance to recover strength. Lay some pieces of old refuse comb near the entrance, (if you have it,) to induce the moth to deposit her eggs there, instead of on the combs inside; they are much easier destroyed in this way than when in the hive.... Where the buckwheat crop is not raised, hives are usually as heavy in the early part of this month as at any time; for although honey will continue to be brought in, the quantity is small, and it will be consumed about as fast as collected. Such stocks as are condemned, might as well be taken up now—it will often save such as are very weak from destruction by the moth.

Cultivation of Celery.—H. R. Angel, M. P. Smith, Westchester Co., Pa., and others. Celery is mainly raised for late Fall and Winter use. Sow in drills about the middle of May, hoe and thin, and finally transplant in trenches eighteen inches deep, the last of June. Hoe only in dry weather, and begin to earth up the first of September, but put the last and principal bank-

ing about it just before frost. Draw in the branches and tie with soft matting to keep the earth from the heart. Harvest when perfectly dry, before hard freezing, and put in a cold cellar, or bury in dry soil, standing them upright, closely packed with two or three inches of the leaves out of ground. Spread a little straw, or lay boards over the plants for a partial protection.

Scientific and Practical Talks About Manures....VII.

(Continued from page 197.)

MODE OF APPLYING MANURES.

The skillful breeder is careful to give his young animals a good "start." He recognizes the fact that if the young colt, calf, or lamb, be supplied with suitable nourishment to early develop large feeding organs, the animal will be better able to provide for its own wants afterwards. The same rule holds good in regard to plants. If the young wheat or corn plant be so nourished that large, vigorous feeding organs (roots) are developed at the beginning of its growth, these roots will gather food more rapidly for its future wants. For the same reason the manuring of seed is a subject of no little importance. All kinds of seeds contain, along with the germ, more or less of nutriment (starch, gluten, etc.) to supply the first wants of the expanding roots. If there be a deficiency of food in the seed kernel, the roots will not be developed far enough to reach out into the surrounding soil where they can gather other food. Here is an important reason why, other things being equal, large plump seeds will yield a larger product than those which are small or shriveled. If a plump "meaty" kernel of wheat be put into the ground, the food it contains will nourish and develop long, strong roots, and these will in turn more rapidly gather large supplies of sap and food from the soil. But if, on the contrary, a poor shriveled kernel be planted, weak shoots will be developed, and a much longer time will be required for the plant to obtain abundant food from the soil. It is true that favorable soil and weather may sometimes conspire to produce rapid development of roots, and poor seed, small potatoes, or even the eyes of potatoes, may yield a fair crop. But this is not the common result. The largest, plumpest grain kernels, and large potatoes, should be selected for sowing and planting, for precisely the same reason that liberal supplies of nourishment are given to the young animal after birth, as well as to its dam before birth.

Let us apply the above to the manuring of seed. Manures are artificial supplies of food. The seed kernel has, at most, only a limited supply of nourishment. If we take three or four kernels of corn or wheat, and bruise them so as to kill their germs, and then place them in the soil around a single whole kernel of the same kind, we thus supply four or five times the usual amount of starch, gluten, etc., for the use of the germ of the one whole seed, and it is reasonable to conclude that its first growth must be accelerated; that the plant will start off more vigorously; that it will send off larger and longer roots in search of food from the soil; and that the after growth of the plant will be larger and more rapid. We see here a reason for always applying a portion of the manure used, directly to the seed. Suppose twenty five or fifty loads of manure to be mixed with a soil: unless the intermixture be far more thorough than is usual, or even practicable, a part of the seeds sown or planted, will fall into portions of the soil where it can receive no benefit from the manure, until it has sent out roots of considerable length. Other seeds will fall in direct contact with particles of manure, and these will be

fed or stimulated, and take a more rapid start. This effect will be, in part, counteracted when the manure has been in the ground long enough to have become pretty evenly diffused by the water circulating in the soil. As a rule, however, we advise putting some manure directly, or nearly, in contact with the seed in the hill or drill. Where seed is sown broadcast, it should be previously coated with manure, by soaking in a strong manure water, or by wetting it, and then rolling it in, or dusting it with some fertilizer. This last method is usually advisable. If barn-yard manure be used, it is advisable to secure a strong liquid by leaching, or by taking drainings from the heap or manure cistern, and wetting the seed with it, drying it off with plaster, or even with dry soil. *The more manure of any kind you can get to adhere to each kernel of seed, the better.*

The use of tar with all kinds of seed is in vogue with many cultivators, and the practice is to be commended. Mix water with the tar to make it barely thin enough to use conveniently; then stir the seed up with it until thoroughly coated. Shovel it over with plaster, or, if this is not at hand, use dry soil. The coating of tar and plaster thus obtained will act as food for the growing germ, and the tar not unfrequently protects the seed from destructive insects. As a general thing, a mixture of equal parts of lime or ashes, and plaster, or even lime alone is advisable for drying the coating of tar. Most soils contain considerable quantities of undecayed vegetable matter, which the alkali of the lime or ashes will decompose and prepare for immediately nourishing the young plants. On wet, heavy, cold, or sour soils, it is always desirable to coat the seed with lime.

Manure water is the best soak for seed. Where this is applied, it is not usually advisable to add lime or ashes, except in very small quantity mixed with the plaster or dry earth, because the alkali will set at liberty the ammonia before the roots are far enough developed to appropriate it; yet in this case, if the soil be damp, it will generally retain much of the ammonia. On wet, heavy soils, the use of lime or ashes is always desirable. The alkali around the seed not unfrequently saves it from fermentation and decay. When fine bone, (bone sawdust,) is obtainable, this is excellent for smearing over seed previously damped with manure drainings, or tar water, or even with simple water.

On fertile ground, where much manure is not needed, it is still advisable to use a little with the seed, for the reasons above given. The plants get a more vigorous start, and afterwards draw more freely upon the surrounding stores of plant-food already present. On poor land, while the first care should be to have manure enough near the seed to start it vigorously, additional supplies, mixed with the soil, generally are needed to afford constant food to the expanding roots. To sum up we may lay down the following

GENERAL RULES FOR APPLYING MANURES:

1st—For all kinds of soils put some fertilizer near the seed when it is planted or sown in open hills or drills, to produce rapid development of the first shoots.

2nd—When seed is sown broadcast, or drilled in with a machine, let the seed be previously well coated with some fertilizer.

3rd—On poor soils, in addition to the manure upon or around the seed, let there be additional supplies of manure mingled with every part of the surface to furnish future supplies of food to the expanding roots.

When practicable, it is better to make the gen-

eral application of manures for a considerable time prior to putting in seed, and to thoroughly mingle the fertilizers with every part of the surface soil. Manure scattered through the soil in lumps, gives too much stimulus to those roots coming in contact with it, while other portions receive little or no benefit. This causes a waste of the manure, and unevenness in the growth of the crop. The advantage gained by having the manure in the ground during several days or weeks prior to planting or sowing, is, that the circulating water or moisture tends to dissolve the soluble portions and diffuse them evenly through the whole, so that every seed may derive some benefit from it soon after germination.



Sedgwick's Improved Cultivator.

The accompanying illustration shows the general form, and mode of operating a new implement which we have recently tried to some extent upon carrots, turnips, onions etc. It has several good features. The wheels are placed upon a long axletree, and by simply loosening the thumb-screws in the rings upon each side of the two wheels, they can be brought close together, or be spread two or three feet apart, so as to track between rows any distance apart. The wheels are wrought iron, and the whole implement is so light that it can almost be raised at arms length, while it is strong enough for all practical purposes. The cultivating shares, of which there are five different forms, are so arranged that they can be used in pairs, or three at a time. They can also be elevated or lowered, and set apart or together, at pleasure, thus adapting it for almost all kinds of weeding. Taken altogether, it is an ingenious and very useful implement, and will be likely to come into general use, both in the garden and field. We find it

especially useful for carrots, onions, and turnips, as it can be run over the rows, cultivating on each side, while the sharp points of the shares, which project below, cut the ground so as to prevent destroying the plants themselves.

Shoe the Fowls.

The above is not a misprint for "Shoo the fowls," but means just what it says, viz., put *shoes* on the fowls. Domestic fowls would be of a great utility in a field of growing corn or potatoes, and especially so in the garden, if they could be kept from scratching up the plants. With a flock of poultry running among the vines, there would be no trouble from bugs. A long time since, we gave in the *Agriculturist* a plan for attaching a jointed spur to the back side of the legs of a hen, so that when she attempted to scratch, the false spur would catch in the ground, and throw her forward; she would thus speedily scratch herself out of the premises. That was considered a very ingenious arrangement, though not a very practicable one. But here is a remedy, both ingenious and practicable, and what is still better, it does not send the fowl away, but leaves her to gather the insects, and prevents her doing any harm with her feet. For the idea, we are indebted to the following paragraph, which we find in an exchange, credited to the *Rural Intelligencer*: "A friend of ours, boarding in the country, found his hostess one morning busily engaged in making numerous small woolen bags, of singular shape. Upon inquiry, he was informed that they were shoes for hens, to prevent them from scratching. The lady stated that it had been her practice for years to shoe her hens, and save her garden. These 'shoes' (I believe they are not patented) were of woolen, made somewhat of the shape of a fowl's foot, after which they were closed with a needle and sowed tightly on, extending about an inch up the leg. Our friend observed that some of the biddies, possibly conceited with their new honors, appeared to tread as though walking on eggs—particularly was this the case when, from the width of the shoe, one would conceive that their toes might be pinched."

Now is not that a capital idea? How easy it is to sew pieces of thin strong cloth around the feet of a dozen, or twenty, or fifty fowls, in the form of a bag, leaving it loose enough not to obstruct the use of the feet in walking and in roosting, but making it tight enough around the leg to prevent its slipping off. The animals may than be allowed to roam at large and gather grass-hoppers and other destructive insects. We shall put the plan into immediate practice, and increase our stock of poultry—to the undoubted advantage of our plants, now infested with myriads of insect pests.

**Agricultural Products of Long Island—
Amount of Manures Used—Interesting
Tables.**

Two subscribers have complained of our recent article on the waste lands of Long Island, and "flings" have been thrown out by some of the newspapers. But no one has answered the arguments set forth, and we shall not waste words in responding. We readily acknowledge that many parts of the Island are exceedingly productive; indeed, here are some of the finest lands for field and garden culture in the world. There is abundant proof of this in the continuous stream of market wagons crossing the ferries to New-York City during a great part of the year. These come from all over the western 20

miles of the Island. An untold amount of produce is also taken from the numerous bays and inlets that line the North and South shores. The Long Island Railroad, running nearly through the center from East to West, though carrying to market but a small part of the produce, comparatively, does a large business in this line. Mr. J. I. Shipman, the head Engineer of the railroad, has furnished for the *Agriculturist* a statement of some of the operations upon the road, including the following:

<i>Sent to New-York and Brooklyn in Railroad cars.</i>	
Milk—(quarts).....	1,858.
Potatoes—(bushels).....	3,221,145
Blackberries—(quarts).....	171,149
Peaches—(baskets).....	60,879
Hay—(tuns).....	5,044
Fish for market—(pounds).....	1,200
	4,400,000
<i>Sent from New-York by Railroad cars.</i>	
Ashes—(bushels).....	189,364
Horse Manure—(cart Pds of 14 bu).....	71,077
Guano—(tuns).....	5,656
	317,774
	105,466
	7,004

The greater part of the last three articles going on to the Island, is sent by boats to the harbors along the coast. Keeping this fact in mind, it will be seen from the following table that Long Island farmers buy and use manure freely:

Stable manure taken by boat from New-York, and sent by cars over the Long Island Railroad, reckoned in car men's loads of 14 bushels each:

For year ending April 1, 1859.	19,177 loads
" " "	1859. 25,167
" " "	1857. 39,102
" " "	1858. 36,515
" " "	1850. 71,077
" " "	1860. 92,960

The fact that the amount sent to the same portions of the island, has been largely increased, from 19,177 loads in 1855, to 92,260 loads in 1860, is proof that manuring pays.

For the American Agriculturist.

Loss of Queen Bees.

After much practical experience with bees, I conclude that more colonies are lost indirectly from the loss of Queens, than from any other cause. I will enumerate a few cases of loss resulting from this cause, which may be considered as primary. *First*—says farmer A to me; “I had a first rate hive last Summer—it was very full of bees; in fact, there were so many they couldn’t all get into the hive, they clustered all over the outside the most of the season, and I thought they would certainly swarm; but, for some reason they didn’t, and last Fall, (it might have been in Winter or early in Spring) I went out to see how they were getting along, and to my surprise, on lifting up the hive I found it full of honey, but no bees. This is what puzzles me: what became of the bees!”

It would doubtless require much time to convince farmer A, that the average duration of life of the queen is about four years—the average of workers is six months. He has "kept" bees upwards of twenty years, and has stocks ten years old, and the queen and bees must be at least as old, for, (in his opinion) she and a portion of the old bees never leave with the first swarm, as we know all writers say, because its "agin natur."

As he has asked the question, I will answer it according to the best of my ability, even should he think it some new-fangled notion. This stock of farmer A's, since it had cast no swarm, very likely had an unfertile queen—the queens frequently lose their fertility after the fourth year—or, the queen might have died from old age at a time when no eggs were in the worker-cells, so that they could not artificially rear a queen. There might, however, have been worker-eggs and a queen reared, but at a time when the drones were killed, so that she could not have been impregnated. Now, a stock destitute of a

queen, or containing a queen either unfertilized or unimpregnated, will soon dwindle away, leaving the hive well supplied with honey, as was the case with farmer A's.

Second—farmer A, has again made complaint—"The worms have completely destroyed the best swarm of bees I had." Why, farmer A, did you consider it the best or even one of the best of your stocks?" "Because," he replied, "it swarmed four times, and no other stock did as well, for none swarmed over twice." I am not at all surprised, that the worms took possession of the contents, for what was to hinder them or impede their progress. Certainly it could not be bees. Just think of it reader, four swarms of bees from one stock in one season! This decrease in bees is almost enough to render it worthless, even had not the moth-worm taken possession. Two swarms are enough in one season, from any stock, especially, when allowed to swarm naturally. I am aware that stocks occasionally cast three or even four swarms, and yet, so far recover by the next season as to go through the same routine of over-swarming again. It is almost always advisable to return all swarms after the second—which may be effected by depriving them of their queen or queens. This must be done soon after they swarm, or they will lose all instinctive knowledge of the parent stock. Instances of stocks recovering from over-swarming, and becoming populous, are extremely rare, especially where the bee-moth is lurking about. Stocks becoming reduced from over-swarming, are not the only ones that are destroyed by moth-worms—it occurs more frequently from loss of the queen. The old or oldest queen always leaves with the first swarm; therefore, the queen remaining after the stock is through casting swarms, is young, and being unimpregnated, must leave the hive to meet the drones or male bees. During her excursion she is liable to become lost, either by severe winds, or by being caught by birds, or more commonly is killed at once on entering a wrong colony. Colonies standing near each other in hives painted alike, are nearly as certain to be selected by the queen on her return, as her own; and in almost every such case she is instantly stung by the worker-bees, resulting in her death unless the colony is queenless; then, she will generally be kindly received. Should this be the result, or should she be killed by attempting to enter the wrong colony, it would make no difference, as far as that is concerned, with the stock from which she emerged. The now queenless stock would dwindle away in the course of a few months, even if not destroyed by worms.

The loss of the queen during her flight to meet the drones, is the cause of no queen being found in the parent stock, fifteen or twenty days after the issue of the first swarm. If but one swarm is cast, she may be seen in the hive about the eighth day after its issue. There may be exceptions, however, as she sometimes emerges from her cell sooner, and occasionally later.

In conclusion, I would advise all who wish to guard as much as possible against the loss of queens, which in the majority of cases results from the hives being placed too near each other, that the colonies containing young queens should be at least six feet apart. Such colonies, are the stocks that have cast swarms, and all swarms after the first that issues. Sometimes first swarms contain young unimpregnated queens, but as such instances are rare, nothing need be said here concerning them. It is better, if room can be spared, to have all colonies two rods apart, placed under trees, on the North side, and facing the Southeast. The stands should be movable, so that

colonies can not communicate with each other, without first rising on the wing. In this way, robbing may, in a measure, be prevented, as the temptation is greatly diminished. The best stand for movable comb hives is constructed thus:—Take four pieces of board—two, 14 by 8 inches, two, 20 by 8 inches, and nail the ends firmly together, forming a rectangular box. This stand is simple and may be very cheaply made.

M. M. BALDRIDGE.

Niagara Co., N. Y., July, 1860.

Inaugurating a Queen Bee.

The incidents attending the inauguration of a Queen among bees, are less ceremonious, perhaps, than a similar transaction among men, yet to the observing naturalist they are full of interest. An account of one of these events, happening the present season, was described in a private letter, recently received by Samuel B. Parsons, and it interested us so much, that we solicited the privilege of making the extract below. Mr. J. H. Pierce of Montgomery County, Ohio, received an Italian Queen bee from Mr. Parsons, and Mr. Langstroth happening to be in the neighborhood, was requested to undertake the ceremony of inaugurating the new-comer as royal mistress over a native stock. It will be seen, that the republican tribe did not at first submit quietly to the usurpation. "....He (Mr. L.) first took away the Queen from the colony, driving off the bees that followed her, and when they had become uneasy and anxious from the loss of their Queen, he presented the new Queen at the entrance of the hive, in which were the bees which had adhered to the comb, and those that had returned from abroad. She entered immediately, but was instantly surrounded and enclosed by a knot of bees, and uttered a shriek of alarm, which caused Mr. Langstroth to disperse the bees and catch her, for fear she would be smothered. He then introduced her in the wire cage, in which she had been sent, and hung her in the hive, permitting the whole swarm to return. He left her in this way perhaps half an hour, and as they appeared to be feeding her, then released her among the bees, who appeared to be now more willing to receive her. This was about 12 o'clock. After dinner, at 3, Mr. Langstroth started home. Mr. Rossel, the bee-keeper, after this went to the hive, took off the honey-board, and found the Queen on the bottom of the hive, running as fast as possible, the bees pursuing her, and she squeaking. She ran out in front and took wing, but as she rose above his head, he fortunately caught her, and clipped her wings. He then sprinkled the hive with peppermint water, and as the bees in a few moments appeared quiet, gave them the Queen again, and they received her very peacefully. The next morning, he examined the hive, and found her upon the comb "all right."

Mr. Pierce writes further: "We now attribute the trouble to the fact of Mr. Langstroth's cleansing some wax from his fingers with turpentine, just before he handled the Queen, and they retained the scent, although he washed them afterward in clear water. We have found, if bees are robbing a hive, and the owners are dispirited, that a little whiskey, sprinkled upon the floor of the hive, so excites and enrages them, that they at once fight furiously, and kill every robber they can lay hold of. The turpentine doubtless has the same effect, and the queen being scented with it, was very offensive to the bees. I have entered into this detail, presuming you will be interested in our method and success, and also that you may

have additional proof of the delicacy of the bees' olfactories, and the danger of offending them in this regard....."

Diseased Bees.

To the Editor of the American Agriculturist.

I wish to inquire in reference to the bees wintering the past season. We commenced the Winter as usual with our bees, covering each hive with a separate box. But almost as soon as the cold weather commenced, the bees began to leave the hive, and fall down on the ground in front. They discharged their feces on the inside of the hive until all was completely covered. Nothing that we could do seemed to alleviate the disease. The loss of bees in this section has been very great, although the weather has not been near as cold as many winters before when our loss would not amount to anything. Our hives are well ventilated both at top and bottom. Now we feel anxious to find out what is the cause.

Jackson Co., Mich.

J. BUTLER.

REMARKS.—Notwithstanding the moderate weather, the bees were probably too cold. We know of but two causes to induce this trouble, viz.; foul brood, or too much honey stored. To winter well, bees *must* have empty cells, into which a portion of them may creep in severe weather. Ordinarily, there are enough left by the brood that matures after the honey fails in the flowers. When a great portion of the brood fails to mature and leave the cells in consequence of disease, it prevents close packing. Sometimes a colony pillages honey from another until their own combs are too full. During some seasons, the flowers may yield honey so plentifully that the bees fill their combs until there is little room for the bees except a thin layer between the combs—this, if the complaint was general in your section, was the probable cause. The colony in such cases must spread over a large space in the hive; they can not maintain the same degree of heat, and they consume more honey, the accumulation of feces is much greater, their bodies become distended beyond endurance, they leave the hive in all kinds of weather, and perish. **Remedy:** Remove to a warm dark room till the weather is warm enough for them to fly. This affliction of getting too much honey, does not often occur in large apiaries.

Fast Horses at the Fairs—A Suggestion.

So much has already been said in the *Agriculturist*, both in words and in caricatures, against the introduction of running and trotting horses at agricultural exhibitions, that it seems hardly necessary to add anything more at the present time. Let those "fast" men and women who delight in seeing horses ridden or driven at break-neck speed, get up performances on their own hook; they have no right to introduce a race course into an exhibition of agricultural and horticultural products. The legitimate object of such an exhibition is to display improved farm and garden products, and labor-saving implements, which may be studied quietly and calmly by cultivators for the purpose of learning how to improve their own practice.

A correspondent, however, suggests a mode of exhibiting the speed of horses which is unobjectionable, and may be of practical utility. We have seen the same suggestion in the Niagara Falls Gazette, the Ontario Times, and two or three other exchanges. For most farm purposes it is desirable that a horse should be a *fast walker*. A horse that can trot or gallop a mile the

quickest, is not the one that can plow or harrow the largest area in a day with the greatest ease, or take a heavy load to market with the least delay. The suggestion of our correspondent is, that the managers of agricultural exhibitions offer prizes for the fastest walking horses. He proposes that there be several prizes, say in this wise:

1st—A prize to the single horse that will walk a mile the soonest, under the saddle.

2nd—A prize to the horse that will draw a heavy load of given weight, over a mile in the quickest time with the least weariness—all competing horses to be successively attached to the same load.

3rd—A similar prize to the last named, but for a lighter load.

4th and 5th—Similar prizes to the 2nd and 3d, for spans of horses.

It is also proposed that similar prizes be offered for rapid walking working oxen.

These suggestions are worthy of attention. Fast walking animals are wanted by the masses, fast trotters or runners only by the few. An exhibition of the walking capabilities of animals may not draw so large a crowd from our cities and villages as a trotting match, but it would have quite as much interest for farmers generally, and for their benefit agricultural fairs are, or should be got up.

Agricultural Exhibitions for 1860.

STATE EXHIBITIONS.

Name.	Where held.	Date.
Lower Canada	Quebec	Aug. 15—
National Horse Show	Springfield, Mass.	Sept. 4—7
New-Jersey	Elizabeth	4—7
Tennessee	Nashville	10—15
Illinois	Jacksonville	10—15
Am. Poultry Society	Philadelphia	11—14
Vermont	Burlington	11—14
U. S. Agricultural Society	Cincinnati	12—20
N. E. Kentucky	Ashland	18—20
Kentucky	Bowling Green	18—22
Nebraska	Omaha	19—21
Wisconsin	Madison	24—27
Pennsylvania	Wyoming	24—27
Missouri	St. Louis	24—29
Ohio	Dayton	25—28
Maine	Portland	25—28
Iowa	Iowa City	Oct. 2—5
New-Hampshire	Manchester	2—4
New-York	Elmira	2—5
Indiana	Indianapolis	15—20
Mississippi	Holly Springs	16—19
Virginia	Richmond	22—27
Georgia	Atlanta	23—26
Alabama	Montgomery	29—Nov. 2
Maryland	Baltimore	30
South Carolina	Columbia	Nov. 13—16
Lower Georgia	Savannah	22
Geo. Cotton Pl's Conv'n	Macon	Dec. 3—29

COUNTY EXHIBITIONS.

NEW-YORK.		
Saratoga	Saratoga Springs	Sept. 4—7
Clinton	Plattsburg	10—11
Franklin	Malone	11—14
Albany	Albany	18—21
Queens	Jamaica	19
Monroe		19—21
Rensselaer	Lansingburgh	19—28
Westchester	Mt. Kisco (New Castle)	25—27
Putnam	Brewster's	25—27
Delaware	Hobart	26—27
Oneida	Utica	26—28
Ontario	Canandaigua	26—28
St. Lawrence	Canton	26—28
CONNECTICUT.		
Windham	Brooklyn	Sept. 12—14
GEORGIA.		
Hancock	Sparta	Oct. 16—20
ILLINOIS.		
Hancock	Carthage	Sept. 19—21
Knox	Knoxville	25—28
Lake	Libertyville	Oct. 2—3
Macoupin	Carlinville	2—5
Henry	Cambridge	3—5
INDIANA.		
Lawrence	Bedford	Sept. 4—
IOWA.		
Delaware	Delhi	Sept. 25—27
MAINE.		
Hancock	Ellsworth	Sept. 26—27
Franklin	Farmington	Oct. 3—5
Waldo	Belfast	10—12
MICHIGAN.		
Sanilac	Lexington	Sept. 27—28
MISSOURI.		
Jackson	Independence City	Sept. 4—9
	Hermann	5—6

NEW-HAMPSHIRE.		
Hillsboro	Weare	Sept. 20—21
NEW-JERSEY.		
Somerset	Somerville	Sept. 11—13
OHIO.		
Fayette	Washington	Sept. 5—7
Portage	Ravenna	5—7
Gallia	Gallipolis	11—12
Clermont	Bantam	11—14
Trumbull	Warren	12—14
Pickaway	Circleville	12—14
Warren	Lebanon	12—14
Medina	Medina	17—19
Union	Marysville	17—19
Clermont	Olive Branch	18—20
Clinton	Wilmington	18—20
Greene	Xenia	18—21
Muskingum	Zanesville	18—21
Preble	Eaton	18—21
Defiance	Defiance	19—21
Delaware	Delaware	19—21
Knox	Mount Vernon	19—21
Madison	London	19—21
Adams	West Union	25—28
Belmont	St. Clairsville	25—28
Brown (Independent)	Ripley	25—28
Geauga	Burton	25—28
Columbiana	New Lisbon	26—28
Jackson	Jackson	26—28
Tuscarawas	New Philadelphia	26—28
Union	Marysville	26—28
Guerney	Cambridge	27—28
Clark	Springfield	Oct. 1—5
Mahoning	Canfield	2—4
Sandusky	Fremont	2—4
Summit	Akron	2—4
Cuyahoga	Cleveland	2—5
Highland	Hillsboro	2—5
Richland	Mansfield	2—5
Crawford	Bucyrus	3—5
Harrison	Cadiz	3—5
Hocking	Logan	3—5
Lake	Painesville	3—5
Lawrence	Ironon	3—5
Licking	Newark	3—5
Lorain	Elyria	3—5
Marion	Marion	3—5
Morgan	McConnellsburg	3—5
Putnam	Ottawa	3—5
Seneca	Tiffin	3—5
Washington	Marietta	3—5
Wayne	Wooster	3—5
Williams	Bryan	3—5
Butler	Hamilton	3—6
Hancock	Findlay	4—6
Champaign	Urbana	9—12
Coshcocon	Coshcocon	10—11
Ashland	Ashland	11—12
Morrow	Mount Gilead	10—12
Wyandot	Upper Sandusky	10—12

PENNSYLVANIA.

Allegheny	Pittsburg	Sept. 4—7
Crawford	Meadville	18—20

WISCONSIN.

Racine	Union Grove	Sept. 11—13
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A Summer Jaunt to the Northern or Polar Regions—Arctic Vegetation.

During the late Summer heats, we have been cooling ourselves by reading books of travel in polar regions. Each page has been as refreshing as an iced lemonade. And the contrast has appeared as great between the vegetation of those regions and our own, as between the two climates. "Vegetation," did you say, at the poles? Yes, in that neighborhood, though it is not very abundant, we confess. Complaining, as we often are, of our fickle, dreary climate and our uncertain and scanty crops, it will do us no harm, occasionally, to compare our lot with that of more northern regions.

Our winters are seldom so severe, or the snow so deep for a length of time, that we can not find around us some token of vegetable life. Go into the sheltered woods, or rake off the snow in our gardens, and we soon find some traces of plant life. Where is the naturalist whose heart has not gladdened in winter over the pale rose streaks on the closed petals of the Epigaea, or the faint blue of the daring little Hepatica, or the wooly-headed Mouse-ear, or the Saxifrage, and many other plants whose names we need not mention? And this in mid-winter! Spring brings a multitude more of beautiful sights, and ushers in the Summer whose luxuriant and gorgeous vegetation no pen can adequately describe.

All the Arctic books which have fallen under our notice, speak with great enthusiasm about the Red Snow of those regions. The scientific

ones tell us that it is not snow, but "the lowest form of plant-life, the first and primitive vegetation of the most northern regions, and perchance the most primitive form of vegetable life on our planet." In learned language, it is the *Protococcus nivalis*. It looks in some places like brick dust, of a dingy red, and in others, it has a tinge of clear carmine. Strange as it may seem, these myriad particles of red dust are separate plants, each having an organization and life of its own. Let them vegetate and grow away on yonder glacier, and in this valley sheltered from the blast: they are the violets and daisies of our Arctic garden.

Dr. Kane was greatly enamored of them, and so was Sir John Ross. Both mention one noticeable thing, viz.: that the red snow was found growing most luxuriantly in the neighborhood of scarlet lichens and certain bright colored mosses. Dr. Kane gathered it at Barrow's Inlet, on both sides of Wellington Sound, and in Baffin's Bay, and at other points as high as latitude 76° 15'. Capt. Parry found it upon the ice-fields of Spitzbergen, far from land, and so did Dr. Kane on floe-ice fifty miles from the shore. This shows that it can grow where no other vegetable production exists, and is not dependent on any other. It contains coloring matter which is soluble, for on scraping away the snow on the surface, the layer beneath is found dyed a pure rose color, but less and less deeply tinged for seven or eight inches below. How intense the thrill of delight which Dr. Kane must have felt on first beholding this northern plant! It allied him at once with the grand fraternity of intrepid explorers in such cheerless and hostile regions. Ah! tell us, too, if it did not remind him of the flowers springing in his father's garden in a distant and sunnier clime.

Stopping somewhat short of lat. 76°, we find quite a respectable show of leaves and blossoms. On Disco island, lat. 70°, is a settlement, on the outskirts of which is a ravine whose flora is worth stopping to see. The mosses and lichens! who ever saw the like! Dr. Kane describes this garden very well: "Nestling curiously under the protecting tufts of tinted flowers, consisting of Gentians, Ranunculus, Ledum, Draba, Potentilla, Saxifragas, Poppy, and Sedum. The Arctic turf is unequalled: nothing in the tropics approaches it for specific variety; and in density it far exceeds its alpine congener. Two birches, three willows, that noble heath the *Andromeda tetragona*, the whortleberry, the crowberry, and a potentilla, were, in one instance, all wreathed together in a matted sod, from whose intricate net-work, rising within an area of a single foot, I counted no less than six species of flowering plants." Well does he add, soon after, "this reminded me of Humboldt's covering with his cloak the vegetation of four continents!"

Further on, he speaks of trees and shrubs reduced to mere pygmies. "Shrubs and trees!—Few of them rose above my shoes, and none above my ankles.... Here I saw the Cleberry in flower and fruit—I could cover it with a wine-glass; the wild honeysuckle of our Pennsylvania woods—I could stick the entire plant in my button-hole."

Spring dawns upon Arctic gardens, as well as on those of temperate climates. And the lassitude we feel at that season, when the mercury rises to 60°, creeps over the traveler there, when the temperature approaches to zero!

Thus far we have spoken only of natural gardens; but there are also artificial gardens quite far to the north. At the Uppernavick, the high-

est Danish settlement, lat. $72^{\circ} 47'$, three hundred and seventy miles within the Arctic circle, Dr. Kane found at the Governor's house, "a little paling, white and garden-like, inclosing about ten feet of prepared soil covered with heavy glass frames; under which, in spite of the hoar-frost which gathered on them, we could detect a few bunches of crucifers, green radishes, and turnip tops. It was the garden, the distinctive appendage of the Governor's residence.....At last came the crowning act of hospitality, pale, yet blushing at their tips, and crowned each with its little verdant tuft, ten radishes! Talk of the Mango of Luxon and of other luxuries of the tropics; but the palate must cease to have memory before I yield a place to any of them alongside the ten radishes of Uppernavick."

But we can not pursue this subject. Enough has been said to remind us what a wonderful provision God has everywhere made for the welfare of his creatures; that even amid polar snows, where we should naturally look only for barrenness and death, even there can be found life, and growth, and beauty.

The Barometer—Its Usefulness to Farmers and Others.

Of the construction of the Barometer and its uses, very little is known by people generally. We propose here to give a few plain illustrations of the instrument which will help the unscientific reader to understand it. The word *Barometer* means weight-measurer (from *baros*, weight, and *metron*, measure.) The barometer is used to measure the weight or pressure of the air, and to indicate changes in the pressure. Storms, drouth, indeed almost all changes in weather are preceded by changes in the pressure of the air; hence the barometer is very useful to those who have crops to gather, and indeed to all classes whose business or pleasure makes it desirable to have some previous indication of the kind of weather that may be looked for.

The air which surrounds the earth extends upward (or outward) from the surface for a great distance, constantly decreasing in density and weight as we ascend from the surface of the earth. At the level of the sea, 100 inches of air weigh about 31 grains. A cubic foot of air weighs about 536 grains; and about 13 cubic feet of air weigh a pound. (A box $2\frac{1}{2}$ feet each way contains nearly a pound of air. A common barrel contains about one-third of a pound of air.)

Though the air extends 40 to 50 miles upward, and probably much beyond this, in an extremely rarified state, yet were the whole atmosphere reduced to a uniform density similar to that at the level of the sea, it would extend upward only 26,100 feet, or about 5 miles. The entire weight of air on our globe is 11,624,914,885,408,838,323 pounds, or more than eleven quintillion pounds! This weight of air is equal to a layer of water over the entire surface of the earth nearly 34 feet deep, (33.92 feet.)

As the whole air is equivalent to 26,100 feet in height of the air at the level of the sea, and as one foot of air weighs 536 grains, it follows that there is piled up upon every foot of the earth's surface a column of 26,100 feet of air, weighing 26,100 times 536 grains, or full 2,000 pounds. As there are 144 square inches in a foot, it follows that the weight of the air or downward pressure is nearly 15 pounds upon every square inch. Illustration.—Lay board, one foot square, upon the end of a scale beam, and then withdraw the air from under it so that there shall be no upward pressure, and the air will

press down the board with the force of a tun.

The reason why we do not perceive this enormous pressure of air upon our bodies, and indeed upon every thing around us, is, that the air being a fluid, presses in all directions alike, so that while the air presses down upon any spot, at the rate of 15 pounds to the inch, the air around and under presses up just as much. Illustration.—Place a tun of iron or lead upon a board a foot square, and then remove the air from above the board, and the surrounding air will press under the board and lift it up with the tun of metal upon it. Take a teacup, bowl, or a quart cup, and fill it even full with water; cover it with a piece of newspaper, fitting closely upon the rim; then carefully invert it, and the water will not run out. The paper furnishes a smooth surface for the air to press up against the water. The same would be the case if the cup were 30 feet high, the upward pressure of the air being greater than the downward pressure of the 30 feet column of water.



Fig. 1.

Take a tube like fig. 1, say 40 feet long, and fill it with water. Now turn it up to the position shown in fig. 2, and the water will partly run out, but the surface of the water in the long arm, at *a*, will stand nearly 34 feet (33.92) higher than in the short arm at *b*. The reason of this is, that there being no air left above *a* to press down, the column of air, 26,100 feet above *b*, will just balance or hold up the 34 feet column of water between *a* and *b*. Place one end of a pump log or pipe in water, and put into it a tight piston. Now draw up this piston so as to lift off the pressure of the air inside, and the air upon the water on the outside will press the water up into the pipe nearly 34 ft. But if the piston is drawn above 34 feet, the water will not follow

it further, because the pressure of the air is only equal to a column of water 34 feet high. On this account, we provide force pumps, instead of suction (air-lifting) pumps, for wells over 30 feet.

If we take a tube of two arms like fig. 3, and into one arm, *w*, pour water, and into the other, *m*, pour mercury (quicksilver), we shall find the water standing $13\frac{1}{2}$ times higher than the mercury, because the latter is $13\frac{1}{2}$ times heavier than water. A column of water 34 feet, will balance a column of mercury $2\frac{1}{2}$ feet.

THE MERCURIAL BAROMETER.—If in fig. 2 we put mercury instead of water, the mercury will sink down so as to stand only about 30 inches high, because a column of air 26,100 feet high, is about as heavy as a column of mercury 30 inches high. Take a tube closed at one end, and say 33 inches long, and fill it with mercury. Then close the open end tightly with the finger, and place it in a cup of mercury, as shown in fig. 4. The mercury in the tube will ordinarily sink down to a point between 29 and 30 inches high. There is no air in the upper end of the tube to force the mercury down; and the surrounding air presses upon the mercury in the cup, and balances the column 30 inches high. It is precisely the same as if

this column of 30 inches of mercury were standing upon one end of a scale beam, and a column of air of the same size, but 26,100 feet high on the other end of the beam—they balance each other. This cut (fig. 4) shows the simplest form of the *barometer*. The numerals upon the side of the tube indicate the height of the column of mercury above the surface of the mercury in the cup, and consequently show the amount of the weight or pressure of the air which balances or supports this column of mercury. There are many forms of the mercu-rial barometer, but they are all made essentially on the same principle. In one kind, the tube is enclosed in a wooden frame, with a glass face. In another, the end of the tube is bent upward, as in fig. 2. In another, a leather bag holds the mercury at the bottom, instead of the cup, which makes the instrument more portable. Too much space would be required for a description of these various modifications; and our main object is only to illustrate the principle of the barometer, and to speak of some of its uses.

Fig. 4.

Variations of the Barometer.—As the height of the column of mercury depends upon the column of air pressing it up, it will readily be seen, that should we carry the barometer above the level of the sea, there would be less air above to press upon the mercury, and of course it would not rise so high. Thus: if a column of air 26,100 feet high supports a column of mercury 30 inches high, it will easily be seen that if we carry the barometer up one-thirtieth of the height of the air (or 870 feet), there would only be twenty nine-thirtieths of the air left to press up the column of mercury, and it would stand only 29 inches high. Illustration.—One of the early experiments in the discovery of the barometer, was that of Perrier. He filled two tubes, and found that at the foot of a mountain, the column of mercury in each tube stood 28 inches high. On taking one of the tubes to the top of the mountain, which was nearly 3,200 feet higher, he found the column of mercury only $24\frac{1}{2}$ inches high. The column fell as he ascended the mountain, and rose as he descended.

It is easy to perceive, therefore, that a barometer is a most useful instrument for determining the height of mountains and high land. (The air is more and more rarified as we ascend, so that considerable allowance must be made for this. So also we must take into account the temperature, moisture, etc. Accurate formulas are made for all these variations, so that it is now perfectly easy to know the height of any locality by observing the height of the column of mercury in the barometer, and applying the corrections for temperature, etc.) With some of our readers who live nearly on the level of the sea, the mercury will range a little below 30 inches, during most of the year, while with others who live on elevated land, it will stand at 28, 27, 26, or perhaps as low as 25 or 24 inches in some cases.

The Barometer as a Weather Guide.—If the air always remained at rest, and equally dry and warm, the pressure would be uniform, and the column of mercury would remain at the same height, in all localities at the same elevation above the sea level. The greatest cause of variation, however, is the change in pressure produced by winds. If a current of wind set towards a particular point, of course, the air will be com-

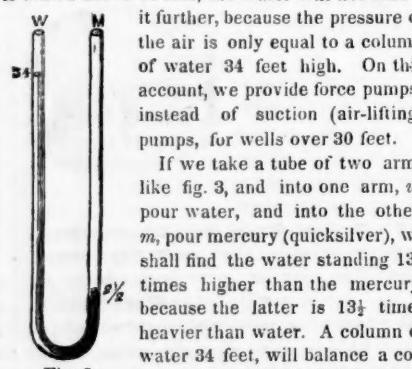


Fig. 3.

pressed, and even heaped up at that point, and, as a consequence, it will press the column of mercury higher at that point, while the mercury would sink down at those places where the amount and pressure of the air are lessened by the amount drawn off by the wind. The reader will here see one reason why the barometer invariably falls just before a heavy wind storm—the air is drawn away from us by the storm at a little distance; the pressure is less and the barometer falls. This is an important feature of the barometer. It foretells with no little accuracy what kind of weather may be looked for.

The reasons for all the changes in the barometer are not fully understood; but long continued observations have given us several general rules for judging of the kind of weather that may be expected to follow certain indications of the barometer. Each country and district has usually some peculiar atmospheric conditions of its own, and every possessor of a barometer will soon learn to note its variations, and after a time he will come to look to the indications of his instrument with considerable confidence. We give here some

GENERAL RULES FOR OBSERVING THE BAROMETER.

1. After a continuance of dry weather, if the barometer begins to fall slowly and steadily, rain will certainly ensue; but if the fine weather has been of long duration, the mercury may fall for two or three days before any perceptible change takes place, and the longer the time that elapses before the rain comes, the longer the wet weather is likely to last.

2. Conversely, if after a great deal of wet weather, with the barometer below its mean height, the mercury begins to rise steadily and slowly, fine weather will come, though two or three wet days may first elapse; and the fine weather will be more permanent in proportion to the length of time that passes before the perceptible change takes place.

3. On either of the two foregoing suppositions, if the change immediately ensues on the motion of the mercury, the change will not be permanent.

4. If the barometer rise slowly and steadily for two days together or more, fine weather will come, though for those two days it may rain incessantly, and the reverse; but if the barometer rise for two days or more during rain, and then on the appearance of fine weather begins to fall again, that fine weather will be very transient, and *vice versa*.

5. A sudden fall of the barometer in the Spring or Autumn indicates wind; in the Summer, during very hot weather, a thunder storm may be expected; in Winter, a sudden fall after frost of some continuance indicates a change of wind, with thaw and rain; but in a continued frost, a rise of the mercury indicates approaching snow.

* 6. No rapid fluctuations of the barometer are to be interpreted as indicating either dry or wet weather of any continuance; it is only the slow, steady, and continued rise or fall that is to be attended to in this respect.

7. A rise of the mercury late in the Autumn, after a long continuance of wet and windy weather, generally indicates a change of wind to the northern quarters, and the approach of frost.

Let it be noted, that the above rules do not require the barometer to stand at any particular point to indicate wind or rain; it is the *rising* or *falling* of the mercury that is to govern the predictions as to the weather. A rise or fall from 29 inches, indicates the same thing as a similar rise or fall from 30 inches. Hence the fixed marks "rain," "wind," "clear weather," etc., found upon many of the barometers hitherto made, are worse than useless—they are deceptive, and have done more than any thing else to discredit this useful instrument.

The Boiling Point Barometer.—Thus far we have only spoken of the mercurial barometer which has been longest in use. There are two other modes of determining the pressure of the atmosphere. Water usually boils at a heat of 212°, Fahrenheit's thermometer. At the level of the sea the pressure of the air upon the surface prevents its boiling or sending up bubbles of

steam at a lower temperature. But on mountains, there being less air pressing down from above, water will boil at a lower temperature. On very high mountains, water boils at so low a temperature that it can not be made hot enough to cook potatoes or meats, and roasting or baking has to be resorted to. So also the *changes* in the pressure of the atmosphere are indicated by the temperature at which water boils. We have not space to describe the mode of making observations of this kind, and it is not necessary, as the method has more of scientific than practical interest. We will now describe a third method which is of great practical utility.

THE ANEROID BAROMETER.*

Take any tin box or canister and seal it up tightly, removing the air from the inside. At the ordinary pressure or weight of the air, the ends of the box will be pressed inward somewhat. Now let the pressure of the air be a little increased, and the ends will be pressed in still further, just as the mercury is forced up in the tube (fig. 4), because there is no air inside to resist the external pressure. On the contrary, let the pressure of the air be lessened, and the ends of the box will spring out. Figs. 5 and 6, we have sketched to illustrate how such barometers operate.

In fig. 5, suppose *V* to be a metallic air-tight box or case, with one end made of thin brass, and a spring inside to press it outward with a given amount of force. If the air be all exhausted from the interior of *V*, the pressure of the air on the outside would tend to press the brass end inward against the internal spring. Fastened to the brass head is a little pivot from which a thread is coiled around the shaft, on the upper end of which is an index or pointer upon the dial plate.

Suppose the instrument to be carried up a mountain, or from some other cause the atmospheric pressure be comparatively small; the internal spring will then throw the brass head *outward* which will loosen the string around the upright shaft. The thread from the spiral spring *S*, will then turn the index back, say to the position shown in fig. 5 above.

Now suppose the instrument be carried down to the level of the sea, or that the atmospheric pressure be increased from some other cause; we shall then have the brass head pressed *inward*, and the index will then be drawn round to a higher figure, say to the position shown in fig. 6. It will be seen, then, that the index will be moved forward and backward over the dial plate from 28 to 31, and thus indicate accurately the amount of atmospheric pressure upon the head of the box *V*. With proper adjustment of the box *V*, including the elasticity of the head and of the internal spring, and also right arrangement of the spiral spring *S*, the strings and shaft, and the index and dial plate—the index will show the varying pressure of the atmosphere upon *V*, just as well as does the column of mercury in the upright glass tube (fig. 4). [Our engravings, figs. 5, 6, are not accurate representations of the internal arrangement of any barometer made, but are

ideal sketches to illustrate the principle of them all. Several other parts are usually inserted, such as multiplying levers, etc. The vacuum box is generally thin, and made of corrugated brass, requiring no internal spring to make it elastic. In some instruments there is a series of thin boxes. Nice adjustments are required to counteract changes of temperature, etc. Our engravings are only to explain the general operation.

For very minute scientific investigations probably a costly *mercurial barometer* is best; but for ordinary use a good *aneroid* is preferable, because it is portable—can be carried from place to place without danger of derangement or spilling the mercury. It is also small and compact, and occupies but little more space than a pint cup.

KENDALL'S ANEROID BAROMETER, (Fig. 7).—At the New-Haven Agricultural Lectures last Winter, Prof. Silliman, of Yale College, called special attention to this instrument, and placed it on a par with those of European manufacture. We

sent for one of them during the Spring, and for three months past have frequently compared it with one of the best standard mercurial barometers kept by Mr. Blunt. It has proved to be accurate beyond expectation. We have recently procured several others for friends and subscribers, and they give good satisfaction. We present in fig. 7 a sketch of one hanging in our office. The outside brass case is only 4½ inches in diameter, and 1½ inches thick. Each one is fitted in a neat leather covered box, and may be readily carried to any distance, and requires only to be hung up to be ready for use. Everything considered, these are among the best barometers for general use. When required for localities more than 4000 feet above the sea level, instruments having special adjustments should be ordered, for which a small extra charge is made upon the usual price. The ordinary price is ten dollars.

Such an instrument is desirable for every family, not only on account of its practical utility in assisting to judge of the weather, but also as a help towards developing a habit of observation on the part of the younger members of the household. We have placed them among our premiums, and until they are on sale in the country generally, we will endeavor to keep a few extra instruments on hand for those who can not get them conveniently from other sources.



Fig. 7.

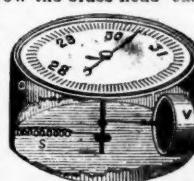


Fig. 6.

NIGHT AIR.—Many people are afraid of night air. Here is what Florence Nightingale says: An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul night air from within. Most people prefer the latter—an unaccountable choice. What will they say if it is proved to be true that fully one-half of all the diseases we suffer from, are occasioned by people sleeping with their windows shut? An open window most nights in the year can never hurt any one. In great cities night air is often the best and purest air to be had in the twenty-four hours. I could better understand shutting the windows in towns, during the day, than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to make night the best time for airing the patient. A high medical authority has told me that the air in London is never so good as after ten o'clock at night.

*The name is derived from three Greek words—a, not; *neros*, fluid; and *eidos*, a form, that is, *a-neros-eidos*, or *aneroid*, is a form of barometer not having a fluid.

"Stick to the Farm."

Let us sing a snatch from this good old song. Yes, stick to the farm. If half the time and energy now wasted in politics, hazardous speculations, and busy idleness, were spent in the advancement of agriculture; if the people were as intent on preserving their farms from deterioration, as they are in "preserving the Union," and settling the manifold vexed questions of the day; if they were half as earnest in battling with briars and weeds, and poor fences and bad soils, as with their political opponents, should we not be better off as a nation and as individuals?

Why is England to-day the garden of Europe, unless it is because every acre is so wisely cultivated? Why is even barren New-England made so productive, unless because of the industry and intelligence of her agriculturists? Well has one said: "The fields ought to be the morning and evening theme of all Americans who love their country. To fertilize and improve his farm, ought to be the prime temporal object of every owner of the substantial soil. All national aggrandizements, power, and wealth, may be traced to agriculture as its ultimate source. Commerce and agriculture are only subordinate results of this main-spring. We consider agriculture as every way subsidiary not only to abundance, industry, comfort, and health, but to good morals, and ultimately even to religion itself...." We shall always sing "Speed the plow!" we shall always regard the American farmer, dressed for his employment, and tilling his grounds, as belonging to the order of real noblemen. *

Lois Weedon Culture.

In England, where, owing to the high rent paid for land it is necessary to resort to every expedient for increasing its fertility, the agricultural community have lately been much exercised upon the subject of what is termed the "Lois Weedon" system of wheat growing. The name is derived from the place where it originated, the vicarage of Lois Weedon, in Northamptonshire. The Vicar, Rev. Samuel Smith, fourteen years since, conceiving that much of success in wheat raising depends upon keeping the soil in proper mechanical condition, selected a field of four acres for a trial of the following experiment. After two crops in the ordinary rotation followed there, (first oats, and then vetches) wheat was drilled in triple rows one foot apart, with intervals of three feet left vacant between each strip of wheat. These vacant spaces were dug deeply with the fork spade, bringing up about two inches of the underlying yellow subsoil. During the Spring these fallow strips were occasionally loosened to within three inches of the growing wheat, and the weeds kept down by proper hoeing, until the spreading roots occupied the ground. After the crop was harvested, wheat was sown in the fallow spaces, in triple rows as before, and the stubble left from the previous crop was turned under to remain fallow the following year. This alternate cropping and fallowing of intermediate strips has been continued in this field until thirteen successive crops of wheat have been gathered. No manure has been applied during the whole period, and although the land was previously in low condition, the yield, as stated by Mr. Smith, has continued to increase from the first, and the average yield for the whole time has been 36 bushels per acre. The soil has been deepened at each successive digging of the fallow, until instead of the five inches deep of wheat-producing land with which the experiment com-

menced, the ground is now from 16 to 18 inches in depth. Thus the two great requisites of successful cultivation, increased yield and increasing fertility, have been attained.

The discussion now going on about this system, is, whether it will repay the increased outlay required for the labor of spading and hand cultivation. The accounts kept by Mr. Smith of the expenses and returns seem to demonstrate that the plan is remunerative there. But with the improvements now being introduced in implements for breaking up and stirring the soil, this objection can not long be urged.

We notice this matter now more particularly to call attention to the effect of deep tillage in ameliorating the soil. The additional one or two inches of subsoil brought to the surface each year and exposed to the action of frost, sun, rain, dew, and air, in the instance just related, were equivalent to a dressing of manure sufficient for the wants of the growing crops, and added to the real fertility of the soil. The advocates of the system even maintain that by thus exposing the soil in fallow year by year, enough of the essential constituents of plants will be gathered from the air, and evolved by decomposition of the mineral deposits in the earth, to supply the wants of the wheat crop for any number of years. This extreme theory however is not needed, even if it were true. The application of manure is as easy in the Lois Weedon, as in any other system of culture, and when a sufficient depth of soil is attained, the fertility can thus be readily kept up.

To decide whether this mode of tillage shall become general, will require much more extended trial than it has yet received. Mr. Smith considers it inapplicable to other than clayey soils. The attention awakened by his experience, has induced other trials. Much prejudice exists against it, and the whole subject will be thoroughly discussed. If it should prove successful against the inevitable opposition to every novelty in cultivation, it will not require many years to reduce it to practice on this side the Atlantic. We shall note the progress of the movement, and make use of such facts presented as may seem applicable to our own wants. Several points already developed are worthy more extended notice when space permits.

The Old Story—Wheat and Chess.

ONE-HUNDRED-AND-FIFTY-FIRST ANSWER.

"Will wheat turn to chess?" is a question we are tired of seeing. Since our first agricultural reading, the error of transmutation of seeds has been shown up again and again, until it would seem that every body must know better. Yet notwithstanding the volumes of writing, the large rewards offered for a single specimen of successful chess-growing from wheat seed, and the settlement of the question by the most extended experiments, scarcely a month passes but a letter brings the same old query, "Will wheat turn to chess?" The belief in this absurdity resembles the growth of couch or quack grass—run the plow ever so deeply through a patch of it, and hoe it ever so thoroughly, and after the first fine shower, you may see the obnoxious young shoots starting from the soil, apparently as fresh as ever, and looking as innocent of harm as carefully sown timothy. There is but one way, however, to deal with weeds in the garden, or in men's beliefs, to work against them as often as they appear, so we proceed to hoe out the chess once more.

The plant is named by botanists, *Bromus secalinus*. It is a species of grass having its own peculiar characteristics as much as timothy, red-

top, blue grass or any other sort. One peculiar distinction which must forever separate it from the wheat family, is the growth of the seed in panicles, forming a loose irregular collection of heads, like the growth of oats; whereas, the wheat plant bears its seed in a spike, each grain packed close to its fellow along a common stalk—so that when you find an ox with his two well defined curved horns, degenerating into a moose with horns resembling a branch of scrub oak, or when the sheep with its upper jaw destitute of front teeth *transmutes* into a worthless cur with a formidable row of incisors above and below, then, and not until then, may you expect the spike-bearing wheat become panicle-bearing chess.

This pest of the field was undoubtedly introduced from Europe, where it has for centuries plagued the grain fields, and given rise to the same error that prevails here. There, however, belief in transmutation is much more fertile. The common people will assure you that wheat will change to rye, then to barley, then to bromus or chess, and finally to oats! Why they should stop here, and not let it run the round of timothy, rye grass, and cat-tail, we can not understand any more than we can explain why superficial observers in this country have never detected wheat transmuting to anything but chess.

The farmers of this country a few years since had a costly proof that chess is produced from chess seed. It was introduced to public notice somewhat after the manner of the *Honey Blade* grass, under the name of Willard's *Bromus*. By the aid of advertisements, "certificates" and "recommendations," a large quantity of seed was sold as high as four or five dollars per bushel. It was stipulated with the purchasers that none should be allowed to go to seed! This precaution did not avail, however, and the unfortunate buyers found they had paid handsomely for a weed rightly named "cheat"—it has cheated many a man out of a good crop of wheat.

Fortunately it is an annual, and proper care for a few years to allow none to ripen the seed, or if any ripens to separate it from grain, will eradicate it. It will take many years perhaps to fully extirpate it, for seeds already sown may remain dormant a long time, and spring up when the season, or the cultivation favors their development. When the seeds are all destroyed, the error of their originating from wheat, will also be obliterated.

A Cheap Source of Manure—A Capital Way to get rid of House Slops.

Among other improvements made on our premises this season, there is nothing that pleases us more than the plan adopted for disposing of "house slops," and we can recommend the arrangement in the strongest terms. As will be seen by the plan of our barn, on page 236, the manure cellar is partly under the barn, and partly on the outside. From the outside division, at 2 feet from the bottom, a glazed earthen-ware pipe extends 213 feet to the house. The pipe is 5 inches inside diameter, in 2-feet joints or pieces fitting into each other, the joinings being closed with hydraulic cement. A curve, not quite a right angle, was required at a distance of 40 feet from the barn, to turn the pipe in the direction of the house, at a point where it could pass between trees already planted. At the house the pipe is 2 feet below the surface, and at the barn 4½ feet below, which, with a fall in the ground of nearly 3 feet, gives a total fall of about 70 inches, or 1 inch in 3 feet. This proves to be amply sufficient, as the water runs freely. At the house end, an

inverted siphon joint was added, that is a curved piece, the bow turned downward, so as to be always full of water, discharging at the lower end as fast as filled at the upper end. This keeps foul air or odors from coming back through the pipe.

The upper end of this siphon piece has 3 necks. Into one of these runs a waste pipe from the sink. Into a second runs a 4-inch lead pipe from a chamber water-closet. In the third opening stands an upright 4-inch glazed pipe, which extends above the ground, just outside the kitchen door. Over this is placed a covered box, lined with zinc, and having a strainer over a short zinc pipe which fits down into the upright glazed pipe. The latter is firmly kept in place by bricks laid around it in cement. The box is hollowed at one side just over the discharge pipe. It is screwed firmly upon the side of the house, and is provided with a cover hung on hinges. This box receives the washing water, on washing day, and all ordinary slops which would soil the sink. Indeed all filthy water is poured in, and vegetable waste, and anything too large to run through the strainer (16 holes to the inch) is taken out as it accumulates, and carried to the manure vault.

Here, then, we have, at comparatively small cost, an arrangement which takes all the slops of every kind clear away from the house, and what is of still more importance, all these matters are saved in the manure where they are absorbed by the bedding straw, and muck thrown in. Taking into account all the sink slops, the hundreds of pails of wash water, and the chamber liquids, we think their value can not be less than \$30 to \$40 a year, at the lowest estimate; and it is certainly worth \$10 or \$15 a year to have them thus easily and conveniently disposed of, with no labor in carrying, and no unhealthy stench about the house, or in the street gutters where such liquids are usually carried. The arrangement is a permanent one, good for a score of years. Let us look at the cost, and see if it will pay. Here are the items:

210 ft. of glazed pipe (in New York) @15c. per foot.	\$31.50
Freight and Cartage.....	1.30
3-jointed Siphon.....	2.00
Digging 210 feet for pipe.....	5.25
Hydraulic cement for joints.....	.62
Mason, 9 hours laying down pipes.....	1.75
Filling up Ditch.....	1.12
Cost of box, and lining with zinc.....	1.63
Sand used around pipe.....	.40
25 Bricks used around upright pipe.....	.15
Total cost.....	\$45.72

We see no reason why the pipes should not last perpetually, without any outlay for repairs; but allowing 4 per cent per annum for wear or repairs, and 7 per cent interest on the cost, the expense is only \$5 a year.

Queries. 1.—Is it not worth \$5 a year to save carrying off wash water, chamber liquids, and such fluids as can not be poured through the usual sink, even if it have a good waste pipe?

2.—Is it not worth \$5 a year to have all slops deposited at a distance from the house, and thus avoid all disagreeable and unhealthy odors, around or near the dwelling?

3.—Allowing only 20 pailfuls of water to be used on each "washing day," the amount is more than 1000 pailfuls a year. In this water there is used from 75 to 150 or more pounds of soap, and it contains a considerable amount of wool and other vegetable matter worn off from garments, besides the decayed matter from the skin collected upon the clothing. Can any one estimate the value of these matters, when mixed with the manure, at so low a figure as \$5 a year?

4.—Is not the soap, grease, and vegetable matters from washing dishes one thousand and nine-

ty five times a year, worth more than \$5 in the manure heap?

5.—Are not the chamber liquids collected during 365 days worth over \$5 in the manure heap?

6.—If convinced that some such an arrangement as the above will pay, and pay well, will the reader construct one this year, or put it off to—some time?

Suggestion.—The glazed pipes referred to are now quite common and readily obtained, but where they can not be, a brick drain, laid in cement, is nearly as cheap, and about as good.

There is Progress in Agriculture.

To the intelligent farmer, proud of his calling, it is pleasant to compare the husbandry of the present and the past. By the aid of monumental inscriptions, some of them recently brought to light, we can learn what implements the ancients used, and how they conducted many of their agricultural processes. For example, we find that the crooked stick now used as a plow on the plains of the Tigris, and in Egypt and Syria, is just like that used three thousand years ago on the same soil. And yet, strange to tell, Egypt had her goddess of agriculture, and her pastoral songs, and her people honored the calling of husbandry above every other. A Carthaginian general showed his devotion to farming by giving his countrymen twenty eight volumes upon agriculture. And so valuable were they, that the Roman Senate ordered them to be translated for the benefit of the Roman people. The early Greeks were famous for their love of agriculture. A thousand years before the advent of the Messiah, Hesiod wrote a poem in which he discoursed of various departments of husbandry. Nor was he a mere theoretical farmer, for he had flocks and farm at the foot of Mt. Helicon; and his soil was not of the best, since he describes it as "bad in Winter, hard in Summer, and never good." The ancients had some knowledge of the science as well as the practice of agriculture. They could distinguish the qualities and capabilities of soils; they understood why different soils were improved by mixture, and by the application of manures; they had systems for the rotation and management of crops, for the breeding and training of animals, etc. The Greeks improved upon the Egyptian plow by fitting it with a mold-board, share and coulter. The Romans derived this plow from the Greeks.

But it is not strange that after this period, agriculture made no essential progress for fourteen or fifteen centuries! What knowledge the Romans possessed was spread abroad over Europe, but little or no addition was made to it. About the middle of the seventeenth century, the minds of men seemed to be aroused. Several treatises were written upon agriculture, in France and England, new grains and grasses and fruits were introduced, and experiments were made in every department of husbandry. Among other new things, red clover was now first brought into England from Belgium. And yet, even there, in many parts of England, a first class farmer had never eaten wheat bread. Here and there, a highly favored one owned a single bushel of wheat which was made into Christmas cakes and pies; and this was all that his family tasted for a year. Tea and coffee and sugar were luxuries indulged in only upon extraordinary occasions. The farmer's wardrobe was meager and poor. It consisted chiefly of tanned or untanned skins, and his leather doublet and hose being soon greased, and smoked, and tattered, were such as few farmers in our day would wear. In most

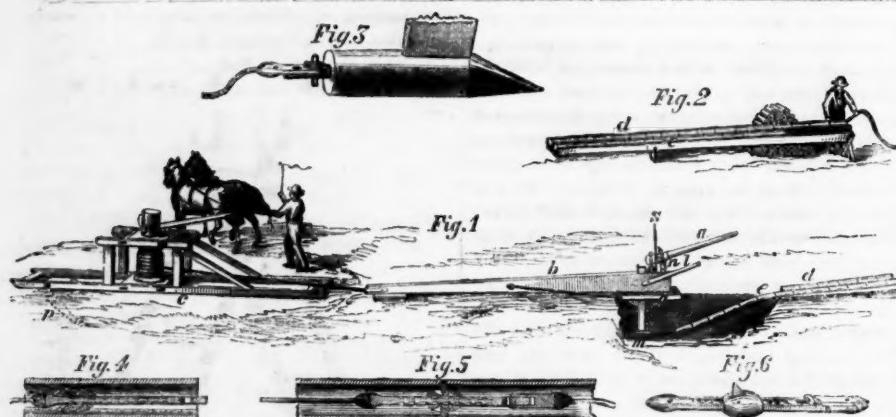
cases, the floor of his house was either earth or stone, and his furniture of the clumsiest sort. A writer has well remarked that "if these were the days of 'good, old merrie England,' her merry men needed a good deal of mirth to compensate for the physical discomforts to which they were heirs." Indian corn, squashes, potatoes and pumpkins had not then been introduced into cultivation. At the beginning of the 17th century, potatoes were sold in England for two shillings a pound, for the Queen's table, and were used as fruit, baked into pies, seasoned with spices and wine, and sometimes sweetened with sugar.

In those days, too, botany and geology and chemistry afforded agriculture little or no aid. Mechanical inventions were in their infancy. Where, then, were steam-engines, iron plows, improved horse-powers, mowing, reaping and threshing machines, horse-rakes, straw-cutters, butter-workers, portable curd boilers and the like? Where, then, were canals, and railroads, and plankroads, and steamboats, for carrying produce quickly and safely to distant markets?

Both in England and in this country, great progress has been made in the common processes of agriculture. Draining, for example, has produced a great revolution in farming. Plowing, subsoiling, irrigation, the making, preservation, and use of manures—these and the like things are now much better understood than formerly. The economical use of labor and of machinery in farming has now been much systematized. The farmer's implements are more numerous and better. "The farmer in the north of England who, one hundred years ago, should have thought of sending his fresh butter and fatted calves and green vegetables by land to London market, would have been deemed a fit tenant for a mad-house. They are now carried there with less labor, expense, and time than it would then have required to carry them twenty miles to his market town."

Corresponding improvements have been made in our own country, and they would have been greater still if our country were older and of less extent. We have had to hew down wide-spread forests, to break up and subdue millions of acres of wild land, and to do a vast deal of other rude preparatory work. The majority of our agriculturists have been comparatively poor men. Then, too, our soil being new and fertile, we have been tempted to skin our farms, and then move further West and skin others. But lately we have been doing better. Adopting many of the improvements of the mother country, we have added to them some of our own. So that now our condition is a great advance on former times. Our implements are nearly perfect. We live in better houses, wear better clothes, and eat better food than our forefathers did. Our agricultural societies and journals are doing a great and good work. Sixty years ago, a negro slave in the valley of the Mohawk, exclaimed in despair:—"We are all ruined now, and master will have to go to jail, for he has come home from Albany with a new farming book!" But of late years, it has been discovered that it is no more dangerous to learn about farming from a fellow-man's book, than from a fellow-man's lips.

Plainly, there is great progress in the science and practice of agriculture. To no man is the future more full of promise than to the farmer. But let us see to it that with every step of our improvement in the processes of husbandry, we make progress also in the great business and aim of life. That is not merely to add field to field, to pull down barns and build greater; but it is to improve our minds, our hearts, and our lives, and to benefit the world in which we live.



Apparatus for Laying Drain Tiles.

One great drawback to at least a trial of draining land, has been the supposed cost. Even though it could be plainly shown that a large outlay per acre would prove a profitable investment in the annual increase of crops, the majority of farmers could not well raise the capital thought to be necessary to make the improvement. And while there remained any doubt as to the promised benefits of the operation, the expense to be incurred, was sufficient to deter many who otherwise would have undertaken the experiment. Inventors have found here a field for their labors promising good returns, and many appliances have been brought out with a view to lessen the cost of drainage. The mole plow, constructed to open a drain in the subsoil without disturbing the surface, has become quite a favorite implement in a few localities. Its good effects have been palpable, and in a compact stratum of clay, free from stones, the drains opened in this way have been of service for years. This system, however, can only be looked upon as the pioneer to thorough drainage. It is inapplicable in any but compact clays, and even in these, the greater service of the tiles makes them the cheapest in the end. In England, where draining has reached the highest standard, mole drains are out of date. The next important step in cheapening the operation of opening drains has been the attachment to the mole plow of apparatus for forming a permanent tube within the opening made by the mole. In several inventions for this purpose, hydraulic cement is forced down into the furrow, following the mole. The use of this material for drains has not been sufficiently extended to decide fully upon its merits—the common burned clay, drain tiles have been tested and found adapted for the purpose. There were many difficulties to be overcome, in laying these by machinery, but a degree of success has been attained which promises to give new impetus to this great work, the most important now attracting the attention of agriculturists. We present herewith an original engraving showing the construction and working of an apparatus for this purpose, invented by Mr. B. B. Briggs, Medina Co., O. Fig. 1 represents the machine complete, and at work. The mole, *m*, is attached to the long beam, *b*, by an upright iron shaft, made thin and wedge shaped to cut through the soil easily. The slide, *g*, is hinged near the middle of the beam *b*, by iron rods: it bears the upright notched shaft, *n*, which is acted on by the lever, *a*. By depressing the end of this lever, the beam and mole are elevated as may be needed to conform to a required grade. The small lever, *l*, is provided with a pin for fastening the slide when arranged at a proper depth. *S*, is an upright rod over

which the operator sights grade stakes set at proper distances in front of the capstan, and is thus enabled by means of the levers to give the proper inclination to the drain. Fig. 3, is a larger representation of the mole for opening the passage. A staple in the end receives a link having a proper head for attaching the rope upon which the tiles are strung. *d*, Fig. 2, shows a double wooden trough, on one side of which the tiles are strung, while those already prepared are being drawn through the other division, *c*, while the mole advances, as seen at *e*, Fig. 1. The tiles are strung on sections of rope, each about twenty five feet long. These sections are connected by a link shown at Fig. 6. A movable clutch near the middle of this link has two projections which rest against the edge of the tile when they are drawn forward, as represented in Fig. 5, so that each section receives only the pressure necessary to force it through the open passage. If a much larger number of tiles were strung together without some such provision, there would be danger of fracturing by the force necessary to draw them along. By the use of the clutch, relieving the pressure at every twenty five feet, as much can be taken in as the strength of the rope will allow, say 300 or 400 feet, or even more.

The operation of this machine is easily understood from the engraving and the foregoing description of the parts. The frame bearing the capstan *c*, is set in the line of the required drain, and anchored by iron spuds, *p*, *p*. The beam is attached to the rope, an excavation of the proper depth, with a gentle inclination backwards, is made at the heel of the mole. The trough for delivering the rope is properly placed, the first section of rope attached to the heel of the mole, the tile strung to within about four feet of the mole, and the horses started. While this section is passing in, another section is strung, ready to be attached by the link and clutch to the former one, and so on to the length of the rope. Then a hole is dug at the heel of the mole, and the pin drawn that secures the first link to the heel of the mole. Now by pulling the rope back from the place of entrance, the arms of the clutch fall forward, and the whole sections are withdrawn. Fig. 4 shows the position of the clutch while the rope is being thus drawn backward. The small interstices left between the tiles where the clutches were used, are closed by prying the tiles from each end with an iron bar. Connections with the larger main drains are made by hand, and the necessary excavations filled in the same manner. This apparatus, it is said, can be used wherever a mole plow will operate. In very stony land, or too solid hard pan, it would be impracticable. The inventor assures us that it was thoroughly tested at the West last season, since which time several improvements have been added. We

have not witnessed its operation, and can give no opinion of its merits founded on actual observation of its working capability. The model, from which our sketches were made, shows it to be a very ingenious implement; and we see no reason why it should not work well.

Hints to Inventors.

The statistics published in the last No. of the *Agriculturist*, show how large a number of inventors are engaged upon machines and implements connected with Agriculture, and there is every probability that the number will continue to increase as rapidly as it has done in previous years. Some of these will no doubt enrich themselves and benefit the country by their inventions, others will meet only with disappointment. The observance of a few plain principles would prevent much of the wasted time and money expended upon such unsuccessful enterprises. An agricultural machine, above all others, should be simple in its construction. A multiplicity of wheels, bands, springs, etc., frightens a plain man at once. Liability to derangement is also in proportion to the complication of structure. To be widely used, a machine must not be of great cost. Farmers are economical from necessity, and keep to the old way if an improvement requires much outlay.

Before undertaking an invention, one should know what has already been done by others. Thousands of models are rejected from the Patent Office yearly, for want of novelty. An invention, however good, must be "pushed," to become remunerative. The success of many of the most money-making contrivances of the day, is due more to the energy of the proprietor in bringing it before the public, and persistently keeping it there, than to their intrinsic worth; while hundreds of really valuable improvements are rusting on the manufacturer's hands, simply because people have never heard of, or have forgotten about them. Few men buy a thing at first sight, and still fewer are attracted to purchase by a single notice in paper.



The "Hydropult."

Among the numerous implements recently sent to us for examination, is a convenient little hand force-pump, which was labeled a "Fire Annihilator," but with it came a request that a name might be given it. One of our assistants, who fortunately, or unfortunately, had dabbled in Greek in his younger days, happened to receive it first, and on trial, finding the force with which it propelled water, "pretty considerable," he overhauled his dictionary, and compounded the word "hydropult," which name, he says, signifies a water propeller. The name was at once adopted by the proprietor, and it may as well be called by that name as any other. The apparatus, which is shown in operation in fig. 1, is a simple arrange-

ment of two valves so placed that whether you pull up or push down, they draw water from the pail or tub, and force it out of the pipe. Fig. 2 is a simplified sketch of its operation. *m*, *n*, are two brass tubes, or rather one tube, say 2 inches in diameter, bent round in the manner shown in the cut. An india-rubber pipe, of any desired length, extends from *e*, at the left, into a tub, pail, or cistern. *a*, is a piston with a sliding valve opening downward. *b*, is a similar piston, with the valve opening upward. Both pistons are attached by connecting rods to the same handle. When the handle is being raised, the valve, *b*, closes, and forces the water over it out at *o*, and leaves a vacuum under it at *n* and *m*, which is instantly filled by water rushing in through *e*, and down through the valve *a*. Now push down the handle, and *a* closes and draws down the water through *e*. At the same time *b* opens upward, and *a* forces the water in *m* around up through *b*, and out at *o*. Thus by either the upward or downward motion of the hand, the water is propelled through a discharge pipe attached to *o*, with a velocity proportionate to the force applied by the hand. A foot stirrup is attached below, and the apparatus is used as represented in fig. 1. The implement is convenient, as it can be carried around with a bucket of water, and be used at any point desired, for sprinkling gardens, trees, graperies, washing windows, etc., etc. It lacks the application of lever power, but this is not necessary for ordinary use. By a quick, strong motion of the hand, we have readily thrown water upon the roof of a $\frac{1}{2}$ story building, and even higher. It is well made, chiefly of brass; the packing of the valves, the packing screws around the piston rods, etc., we have omitted in the sketch, which was made in the simplest form possible to illustrate the mode of its operation. [Since making our sketch and putting the above in type, we have received an advertisement from the manufacturers, in which the apparatus is shown more in detail. Fig. 2 above, however, better illustrates the operation of the valves.]

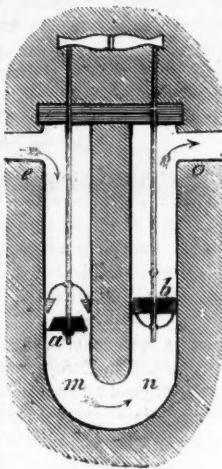


Fig. 2.

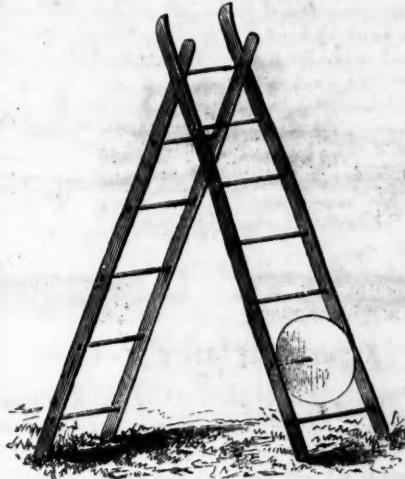
After the posts are all set, the next part of the operation is to draw in and splice the wires. To form a neat splice, let the two ends lap each other about six inches; with a narrow pair of blacksmith's tongs hold them firmly together, and with another pair of tongs turn each end around the wire until it is all coiled; a splice so made is very strong. When the wires are all drawn through and spliced, the ends are to be properly fastened. This is done by means of iron rollers, each five inches long, one inch in diameter, and pierced with three holes, one large enough to receive the wire, the others, one on each side of the first as large as the roller will allow, say, 7-16ths of an inch in diameter, and $\frac{1}{4}$ of an inch from the small hole, and at right angles with each other. Draw the wire through the small hole, pull it as tight as it can be made by hand, then with two steel levers each about 14 inches long and fitting the holes in the roller continue to turn the roller and wind the wire until it is sufficiently tight. Then place an iron pin in one of the holes, which will rest against the outside of the post and prevent unwinding, and the work is done. A fence of one hundred rods or more should have rollers for tightening at each end; for a fence of fifty rods or less, they will be needed at one end only.

I think too small wire is commonly used for fencing. I prefer the size No. 6, and would always have it annealed. This can be purchased in Philadelphia at $5\frac{1}{2}$ cents per lb. which will make a fence of six wires cost about twenty five cents for a panel of ten feet. If the fence is wanted to turn cattle only, five wires are sufficient, but for sheep and lambs, there should be seven.

I see it mentioned in the *Agriculturist* that difficulty is experienced by some, in consequence of the variations of length caused by heat and cold; but the fence that I have made on the above plan, has, as yet, given me no trouble. If it should be apprehended that, the hard freezing of Winter would injure it, it might be easily obviated by taking out the pins. I do not think of anything else requisite to make a neat, durable, substantial, and at the same time, cheap fence. If neatness and beauty are aimed at, it would add very much to both, to give it a coat or two of white paint.

THOMAS ATKINSON.

We have not seen this arrangement in use in this country, but borrow the idea from a French periodical, which represents them as common in some parts of France. From the drawings, any one who can make an ordinary ladder,



can construct one of this form. From six to eight feet is a convenient length for each part: this will give twice that elevation when used as a single ladder.

One Horse Humbug.

Since the successful performances of Rarey, in horse taming and training, a host of imitators have arisen, some of them men of intelligence, able to understand and apply the principles of his practice, but in very many if not most instances, mere jockeys, too lazy to work, and desirous of living by their wits, or in other words, making money out of the want of wits in other men. A correspondent sends us a handbill, copies of which, and of others similar in character, he says are posted on nearly every guide post in the Western States. They show at once the character of the enterprising individuals engaged in the business. We find here a promise to teach, for the sum of \$8, "How to acquire the most perfect control over the wildest horse in one hour's time, without the use of drugs or charms." "How to break the wildest colt in half an hour's time so that a boy fourteen years old can ride or handle him with perfect safety," etc., etc.—the promises far exceeding any thing that even Rarey professes to know. But that is of small consequence with an imposter—a big lie is as easily told as a small one. Any sensible man knows there is but one way to break the wildest colt in half an hour, that is, to break his neck; then, and only then can a "boy handle him with safety." To break a colt well, is to educate him, which is a work of months or years of painstaking. The process is simple enough, but very different from what ignorant jockeys recommend. The richest part of this handbill, however, is the proposal to instruct in the arts of swindling as practiced by jockeys. The morality and the grammar of the following are about equal: we copy verbatim.

"We will teach the following jockey tricks, which we do not recommend any one to practice; but as there are men who do practice them, it is well that all should know them:

"How to make a horse appear like he was badly foaled in one night's time. How to make a horse stand by his food and starve to death, and not taste it. How to make a horse appear like he had the glands in one night's time. How to take the truest pulling horse, and without taking



A Wheel-barrow Ladder.

The above cut represents a wheelbarrow, upon which several baskets or barrels may be set and trundled to the orchard. Arrived there, it is elevated, and forms a very convenient fruit ladder, as seen at fig. 2, which may be pushed up among the branches, or stand near the outer edge of the trees as desired. It can be made of any needed length, and only differs from an ordinary double step ladder, in having a wheel near the lower end. When several baskets of fruit have been picked, they are set in the spaces between the rounds, and wheeled home. The ladder will also be found very convenient in grafting, pruning, etc., and can be run to and from the orchard, much easier than to carry an ordinary ladder. By letting the round next to the one at the top, project a little at each end, the two parts may be unfolded and set up as a single ladder, thus forming one of double the length.

Wire Fences.

To the Editor of the American Agriculturist.

I have used the plan for wire fences described below, for five or six years, and found it to work well. For a fence of one hundred rods, first set at each end a straining post eight by ten inches, high enough for the required number of wires. Bore the holes to admit the wires near one edge, so as to leave room for a brace to be set against the post. Make the brace twelve feet long, set its lower end firmly in the ground, and resting squarely against a flat stone set perpendicularly. The intermediate posts should be four by four inches at the bottom, and four by two inches at the top, and set at intervals of twelve feet. My plan is to bore the holes before setting the posts with a $\frac{1}{2}$ brace bit. [It is more difficult to bring the holes into exact line in this way, than by boring after the posts are set.—ED.]

him out of the stall, in one night's time, have him so that he won't pull the hat off of your head. We teach how to tell, by looking at a horse, whether there is any thing the matter with his head, neck, or lungs. How to cover up the heaves so effectually that you may work, ride or run him, and they can not be detected; this will last from 12 to 24 hours—long enough to trade him off. We teach how to put a young countenance on a horse. We teach how to break a horse from sucking wind. We teach how to nerve a horse, so that he will walk on the hardest road or pavement, and not limp, in 20 minutes' time. We also teach several other tricks, such as learning a horse how to answer questions, &c., &c."

Supposing this were not all humbug, the man who would impart such knowledge to a miscellaneous class, for money, is worthy to occupy a high position on the list of convicted felons, and is in a fair way to attain it. Give all such impostors a wide berth. Two or three dollars invested in reliable works on the horse, will be of more value than all these mountebanks can impart.

To Make a Cow give down her Milk.

A subscriber complains that he has a fine cow, which has twelve quarts of milk to spare at each milking, yet she will not let him have any until her calf has had his supply. He wants to know the reason of this. He strongly suspects there is something in his looks, his hat, dress, or moral habits, or his way of milking, which has so set his dumb beast against him. He is in great tribulation. Fie, fie, Sir! just try milking one teat at a time, as the calf does, and see if that won't make her give down. We have known this to answer the purpose, many a time. If that wont do, along with it try the practice of giving her some favorite food, just to divert her attention when you begin to milk.

Sheep Husbandry.....III.

CHANGE OF PASTURE.

The old proverb that "a change of pasture makes a fat sheep," needs to be received with some qualification, perhaps, yet if the pastures are good, there can be no doubt of its advantage. Sheep are even more fond of variety of food than the horse or the cow, and unless they have a very wide range with a considerable variety of soil, they should be occasionally changed from one pasture to another. Even if the new pasture has some weeds and brush, it will not be objected to. Many plants that the cow will not touch, are greedily cropped by the sheep. The daisy and white weed which flourish upon hill pastures, are highly relished and where these weeds abound, they may be subdued by close feeding with sheep. They should be turned in early in the Spring, while the plants are tender, where you wish to eradicate them. Dock, milkweed, vervain, and many other troublesome weeds may be subdued by sheep. This incidental benefit is not to be lost sight of. The natural instincts of the sheep lead them to prefer elevated land, and by this kind of stock rocky hill pastures, remote from home, may be turned to good account.

Care, however, should be taken to eradicate laurel and other poisonous shrubs from the pastures. Both the high and the low laurel yield one of the deadliest poisons, and flocks that have access to these shrubs are often injured or killed. The wild cherry is also injurious, but is less dangerous, as its limbs are generally above their reach. In case of poisoning, a strong decoction of white ash buds or twigs, will afford re-

lief, if seasonably administered. A teacupful of the tea may be given to each animal.

Separation of the flock.—The rams should be separated from the rest of the flock at shearing, or at least by mid-summer. It is safest to do this at the earlier period, for some sheep which have had no lambs, or lost them at yeaning time, may be in season even in June. This is particularly necessary with the fine woolled sheep. The long wools do not usually come into season until cool weather. Lambs dropped through Winter, are a great tax upon the time and patience of the farmer. They are like winter chickens, requiring a great deal of nursing, and seldom paying for the care bestowed upon them. The better way is to regulate the yeaning of your flock by your own precaution. As a rule, the lambs should not begin to come until the Spring has fairly opened, and the whole flock should be through with yeaning in the course of a month. This will bring the proper time for coupling in this latitude as late as November. It is true that early lambs, if they do well, are more saleable, but it should be remembered that a much larger per cent of them die.

The flock needs constant observation at this time, for, ordinarily, the sheep owner has not only to guard his own rams but those of his careless neighbors. A single visit of an inferior, coarse woolled ram might damage the increase of the flock to a large amount.

The lambs also should be separated from their mothers about the first of August, to give the ewes time to recruit for Winter. If they be put in lots so far apart that they can not hear each other's bleating, they will very soon become quiet. The lambs can be put in with the yearling ewes, for, if you do not wish the yearlings to bear lambs at two years old, they also should be separated from the rest of the flock. The more common practice is to let them bear the second season, but we think the size and stamina of the sheep are depreciated by the practice. To get the best results in wool and flesh, and to keep the flock constantly improving, many think the better way is, not to let them bear lambs until their third season. Of course, if one is looking at immediate results, and makes his market for the surplus of his flock with the butcher, rather than with the breeder, this will not pay.

The ewes, when separated from their lambs, should be kept in short pasture until the milk is dried up. About a week after they are turned off, they should be examined to see that their udders are not caked. It is a good plan to strip the milk from all. This will guard against obstructions at the next lambing season. After they are dried off, they should be turned into good feed, and be allowed to restore the flesh which has been reduced in raising their lambs. The lambs also should have fresh, tender pasture, that they may not fall away after they are weaned. In Summer, as in Winter, the whole flock should have full feed, and the profits on mutton and wool will be found to hinge mainly upon this fact.

Fall Management.—It is almost the universal practice in this country to let sheep run in the pastures until they are covered with snow, and necessity compels them to the dry hay. The change from grass to hay in this sudden way is always accompanied with loss. Indeed the loss begins some time before the change, when the frosts turn the grass, and it loses its sweetness. The feed depreciates in quantity as well as in quality, and it is thought the flocks are doing well enough as long as there is a blade of grass to be

seen. The wool in some measure conceals the condition of the flesh, and the loss is not detected so soon as in the horse or ox. But it very soon appears after they enter winter quarters. This neglect is very bad husbandry, for it uses up the gain which the sheep have made upon the flush feed of Summer, and brings them to the yard with decreased stamina.

As soon as the fall frosts and storms begin to come on, sheep should be provided with shelter, sheds or hovels to which they may resort at pleasure. These shelters are a good provision in a sheep pasture at all times, and should be put up as a permanent arrangement. They become indispensable in the long cold storms of Autumn, when the sheep are liable to have their fleeces saturated with rain and to contract disease. This system of shelter in stormy weather is rigidly followed in Europe, and is considered a necessity of good management. While every good shepherd is opposed to their confinement, he wishes to have shelter at hand where the sheep can reach it when their instinct prompts them to seek it. Many of the diseases of sheep—as rot, scab, dysentery, colds, etc., are mainly owing to the neglect of this precaution.

The sheds, too, render feeding much more convenient. As soon as the grass begins to fail, and they can not get a good bite, they should have a little clean, sweet hay fed to them daily, or what is better, sliced turnips in such quantity as they will eat up clean. The root crops are matters of great importance in connection with sheep husbandry. A very large part of the mutton of the British Islands is made of roots. With these the flock can be passed over from the short pasture of Autumn to the dry hay of Winter, without loss of appetite, and be kept constantly gaining. They give the farmer the means of changing food at pleasure, and furnish a full supply of succulent fodder when it is most needed. With suitable shelter and food at this period, the flocks will enter upon the Winter in thriving condition, and will show the advantage of the care bestowed upon them in heavier fleeces and carcasses, if they are fed for market, and in larger and healthier lambs, if they are kept for breeding.

Sheep—Description of Breeds.

We command the following description of the characteristics of several leading breeds of sheep, to the attention of the general reader, and especially to those who may be called upon to act as judges at our various Agricultural Exhibitions. If some member of each Committee on Sheep will carry with him these notes, and refer to them in deciding upon the animals worthy of prizes, there will be less occasion for the usual complaint that premiums are awarded to the largest, fattest animals, without regard to good points. The descriptions we take from the Prize Report of Robert Smith upon the Live Stock exhibited at the Warwick Show of the Royal Agricultural Society of England.

LEICESTER SHEEP.

The leading qualities of the Leicesters are early maturity, lightness of offal, aptitude to fatten, and small consumption of food; producing consequently a larger amount of mutton per acre than any other breed. As improvers of other breeds they are invaluable; indeed, there are but few (if any) long-wooled sheep that do not owe something to the Leicester....The real essentials, as combined in a good Leicester, are:—Head well set on, wide across the forehead, but not too short; fine bold eye; neck very muscu-

lar and wide at the base, not too short (a very short neck being in my opinion a mistake); moderately wide between the top of the shoulders; shoulders oblique; chest wide; fore-flanks widely developed; ribs springing well from the vertebrae; loin wide and well covered; rumps wide, and a little projecting over the tail; thighs large and well let down, and with what is provincially termed a good "twist"; wool long and thickly set, with rather a curly lock; carcass deep and round, and with an unmistakable appearance of good character.

THE SOUTHDOWN SHEEP.

This sheep is now fully recognized as a first-class animal, combining beauty of form, quality of wool and flesh, with elegance of movement. As such, they are much sought after for grazing our English parks, and adorning the seats of the aristocracy and country gentlemen. Again, for the "home farm" they are just the thing, combining, as they do, park-like beauty of appearance and delicious flesh for the squire or connoisseur. No breeders are so tenacious on points of color, bone, elegance of shape, beauty of features, and quality of wool, as the Southdown breeders. The color of his face must be a peculiar brown, neither too light nor too dark, either being objectionable; the wool must be close and fine, but in tolerable quantity, and, to use a provincial expression in the county of Sussex, it should be "as hard as a board"; the head must be well covered with wool, particularly between the ears, and carry a nice "fore-top" on the forehead. The most striking fault in many Southdown flocks is a very ill-formed shoulder, light fore-quarter, light in the brisket, and narrow between the fore-legs. No man has done so much towards remedying this defect as Mr. Jonas Webb, his flock being particularly good in this respect. The brown leg and foot is another peculiarity of the breed, as also the deeply let down "haunch of mutton," not forgetting the dark rich gravy that "cures the gout." The setting on of the neck, when nicely blended with the shoulder, gives these sheep a remarkable elegance of carriage. Thus it is that these animals are so prepossessing in appearance.

COTSWOLD SHEEP.

The general characteristics of the best Cotswolds are—their bold and commanding appearance; their finely arched neck, well run into the shoulders, giving them an ease of carriage, when walking, which is peculiarly their own. They have broad, straight backs, with arched ribs and length of quarter, carrying an enormous weight of carcass upon clean yet open legs. As a class, they possess good legs of mutton. Their shoulders are rather open, but in line with the back, thus giving them a good appearance in the sheep-pen; the chest is broad and deep. There is a slight difference of opinion as to the exact sort of wool they should produce. A fashion of late has sprung up in favor of the open curly coat, while the older breeders adhere to the thick-set flaky coat. The latter class of wool affords the best protection against the vicissitudes of storms upon the open hill-lands these sheep have to occupy. Be this as it may, they are fully agreed as to the animal carrying a "fore-top" on his forehead, and of no small dimensions, as witnessed at some of the Society's meetings. These sheep have become popular from the fact of their hardiness being combined with flesh and wool producing properties. They are sought after for exportation to the colonies, and for crossing the dark-faced short-wools at home. The Oxfordshire down was originated by a cross between the Cotswold ram and Hampshire down ewe.

Bark Lice killed by Sulphur.

To the Editor of the American Agriculturist:

In the June *Agriculturist* I saw a conversation between an old and young orchardist, in which it was recommended to wash the bark of trees with water in which a little soap or potash had been dissolved, to kill the "scale" or bark louse which infests apple trees. Allow me to relate an experiment which was tried on an apple tree in my father's orchard. This tree was rather small, but evidently of great age. For want of a better name, it went by that of "The old Lousy Tree"—a very appropriate name, by the way, for it was covered from the root to the end of every twig with the "animals," together with a superstructure of moss that gave the tree somewhat the appearance of an evergreen. It struggled on, however, and generally bore a few inferior apples. And now for the grand experiment. A half inch hole was bored into the body of the tree, about a tea spoonful of flower of sulphur was placed therein, and closely stopped with a plug. The result is that the lice are entirely gone, and the moss nearly so. The shoots which, before the application, averaged an inch and a half in length for a season's growth, last year made a growth of 8 or 10 inches, and, in spite of the frost, bore several bushels of as fine fruit as one could wish to see. Whether the remedy would prove as efficacious in every case, can only be determined by further experiment. E. S. GILBERT.

Allegany Co., N. Y.

REMARK.—That certainly looks like proving the sulphur remedy efficacious. We must still doubt, however—not that the facts are as represented by our correspondent—but whether the improvement in the tree was due to the application described. We have known trees take just such a start from no apparent cause, yet something unobserved must have produced the change. So many have tried the sulphur remedy, and found no benefit, that it is generally regarded, by the best authorities, as an exploded "notion." See article, "A Humbug or Two."—ED.

A Humbug or Two.

About once in four years, we meet a paragraph on its winding way through the papers, to the effect that sulphur, inserted in the body of a tree, by means of an augur-hole—said hole to be afterwards plugged up—will be absorbed by the sap and diffused through branches and leaves, so that caterpillars, borers and the whole tribe of aphides will be routed and forever repelled from the tree.

Why are we not also told that the essence of Heliotrope may be diffused through the stalk of the Dahlia, so as to make that imperal but scentless flower hereafter abound in fragrance? Or again, and better still, that ipecac and tartar-emetic may be sent flowing through vines or tempting fruit trees, for the special benefit of thieving boys? We surmise that if this were known, it would intimidate certain young gentlemen more than bull dogs, spring-guns, or man-traps. Why, then, keep it a secret?

But while protesting against gullibility, we must add a story or two to promote it. A gentleman of great integrity informs us, that he once had a peach tree in his back yard where the slops of his kitchen were often thrown. One year, at the time of the swelling of its fruit, it so happened that a half-barrel of fish-brine was emptied on the ground near the roots of the tree. When the fruit ripened, it was found so impregnated with a fishy-salt flavor as to be hardly eatable. In other respects, the fruit was unchanged.

Story the second:—In the travels of Anarcharsis, it is recorded,—"To obtain grapes without stones, you must take a vine shoot and cut it lightly in the part which is to be set in the ground; take out the pith from this part, unite the two sides separated by the incision, cover them with wet paper, and plant them. The experiment is most likely to succeed, if the lower part is put in a sea-onion before planting it. * * Would you wish to have on the same vine both black and white grapes, or clusters, the berries of which shall be some black and others white, take a shoot of each kind, bruise them in the upper part so that they may closely unite and incorporate their sap, tie them together, and plant them in the ground."

We hope our readers believe these things! Old humbugs are as good as new. *

Hen Manure.

Guano, and stable manure, and ground bones, and some of the honestly-made fertilizers are valuable, and should be used whenever they can be obtained, but none of them are better than the droppings of the poultry-house. Farmers have been known to sell this article to tanners for twelve and a half cents a bushel, while it is worth nearer a dollar. It has been estimated to be worth \$30 a tun, or 1½ cents per pound, which is probably not far out of the way, as compared with other standard fertilizers. As our domestic fowls are commonly fed on a large proportion of vegetable food, their manure is not as powerful as Peruvian guano. If they lived chiefly on meat or fish and similar concentrated food, their droppings would be as valuable, pound for pound, as the best guano.

To save this manure in the best way, the floor beneath the roosts should be sprinkled every few days with plaster, and then swept clean once a fortnight, gathering up the mixture in barrels, and covering it until wanted for use. Just before planting and hoeing time comes, mix this manure with an equal quantity of leached ashes, and add half as much more of plaster; then let the whole mass lie several days in a heap covered with muck or earth to ferment. When ready to plant, drop half a gill in each hill, draw on a little dirt, then plant the corn. It may also be used with potatoes, pumpkins, melons, cucumbers—in short with all crops.

And here, we are reminded of an experiment which occurred within our knowledge: A farmer, whose stock of barn-manure was not quite large enough for his wheat-field, as a last resort, went to his poultry-house, swept it clean (and it had not been cleaned for six months,) mixed the droppings with mucky soil, and sowed it broadcast over the unmanured patch. In Spring, the effect was plainly visible. As soon as mild weather set in, the patch took the lead of the field: its bright green color and vigorous growth was noticeable a mile away.

The hen-house is no hobby of ours, but we think it is generally undervalued. We see every year, in corn-fields, kitchen gardens and ornamental grounds, enough to convince us that this is one of our best fertilizers. Let us not send our money abroad for manures, until we have used all that we have at home. If any one does not wish the trouble of saving and applying this manure as we have just recommended, let him by all means gather it up at frequent intervals, and mix it with the dung heap in the barn yard. This will add much to its value. *

A thorn in the bush is worth two in the hand.



Combined Barn, Carriage House, etc.

BARN, CARRIAGE-HOUSE, WORK-SHOP, TOOL-ROOM, POULTRY-HOUSE, ETC., UNDER ONE ROOF—SUN-DRY LABOR-SAVING CONVENiences—FORM OF SPECIFICATIONS AND CONTRACT.

Last month we gave a plan of a building adapted to a particular location, accessible in both front and rear. We now present a somewhat different plan, and believing that it contains features that may be adopted in different kinds of barns, we will describe it somewhat minutely. This building has been erected on our own premises during the present Summer.

Location—Elevation Plan.—The location is near the north line fence, which prevents driving directly through the main floor. The view is taken from the south-west. A carriage road comes in from the street, directly opposite the west wing, and branching at a little distance, one wagon path leads to the main entrance, with a side road leading round to the yard on east side. Another branch turns to the west and passes in a curve through the lawn to the dwelling, and thence to the street. From this branch there is another carriage path to a wide door in the north-west corner of the barn; also a foot path to the smaller door at the south-west corner, leading into the work-shop. From the road extending into the rear yard, a horse-path runs to the door opening on the south of the east wing. (We can not properly speak of wings, as the general plan is a main building 26 by 45 feet, with a central projection on the south side, of 3 feet, and a similar one on the north side, of 1 foot. These projections are added to give variety of architecture, and break up the broad look of the north and south sides. The engraving gives only the general plan of the plots around the building. Large symmetrical Norway Spruces—not the dwarf firs shown—also tree box, and other evergreen and deciduous shrubs, planted at little cost, give the whole a cheerful aspect for Winter as well as Summer.)

Fig. 2. Basement Plan.—In the middle is the main or vegetable cellar, V. C. By a mistake in the drawing, the wall on the north part of this is not shown projecting a foot, as it should be made. D. W. is a dwarf wall, or foundation. Inside of this is a cistern, C, which is 20 feet long, 8 feet wide, and 7 feet deep. A brick wall is laid around it, plastered on the inside, and grouted on the outside, with hydraulic cement. A plastered brick wall thrown across the middle supports the

long side walls. The bottom is covered with round stones and sand well beaten down, grouted, and plastered. Some hard bricks bedded in the bottom are laid under the entrance of the gutters at each end, to prevent wearing the bottom by falling water. The cistern is covered with an extra floor nailed to the underside of the joists, to keep out frost in Winter. At the south-west corner a cemented brick pipe (not shown) 7 inches in diameter, is carried from about mid-height up out through the south corner of the dwarf wall, D. W. This is provided for the insertion of a fire-engine hose-pipe, in case the barn should be on fire preventing access on the inside.... The Manure Cellar, M C, is surrounded with heavy walls laid in hydraulic cement, and is covered with a double matched floor to prevent odors rising into the stables above. The wall separating it from the vegetable cellar, (V. C.) is built close up to the flooring, and sunk below the general level, so that the two cellars are wholly isolated. The manure cellar extends outside, at A. W. This external portion is of the same depth as the main cellar, and is similarly walled up. It is covered with heavy plank doors, slightly inclined from the building so as to

ranged, all vapors are kept from the building by the solid cement walls built up to the main floor, and by the tight sub-floor over the manure vault; while the part A. W., extending to the outside, allows all vapors to escape freely into the air. By keeping abundance of muck in the manure, there will be very little escaping gas.

Fig. 3. Ground Plan on First Floor.—C, c, is the main carriage floor; C, 30 feet long, and 16 feet wide. An implement room is taken off from one corner. The carriage floor extends round to c, so as to furnish a drive through from door to door, with one carriage standing in the north-east corner, and another under the stairs leading up from I and W. In case of need, the floor will hold four vehicles, and still leave room to run in and back out a fifth one at either door. The large trap-door, T, is convenient for unloading potatoes, turnips, carrots, etc., directly from a wagon tail into the vegetable cellar. Directly over this trap-door is another, so that pumpkins, squashes, and other articles, can be raised from a wagon to the loft above. On the approach of cold weather these articles can be lowered with basket, rope, and pulleys, from the upper loft to the cellar, through the two trap-doors. This is a convenient arrangement that might be adopted in most barns. Many articles keep much better in an airy loft than in a cellar, until severe cold weather comes on. W, is a work shop 9x17 ft., provided with work bench, etc. This opens into the implement room, I, where are stored all smaller implements, earthen pots, and other apparatus pertaining to the garden. It is accessible by a door from the outside, and another at the corner leading from the carriage floor. The cutting off of the corners of I and W diminishes their space very little, while it conduces greatly to the roominess and convenience of the carriage floor.... The Horse Stable 12x18, has two single stalls, s, s, 4½ ft. each, and a larger one, S, which may be used for harnessing, or for one or two horses when required. A first floor is laid of tongued and grooved 1½ inch plank, and over this, tongued and grooved 2 inch plank, inclined 1 inch to 2½ feet to carry off water. In the rear of the horses a plank, g, 4 inches wide is laid in on a level with the floor, and a groove is cut in this slanting towards a hole in the middle which conveys the urine down to the manure cellar. A double plank trap-door, is provided for dropping manure through... H, is a close room for keeping nice harness, blankets, buffalo robes, bells, whips, etc. This has an outside window in a mock door. The common harness is hung under the stairs and around the stable. The studs around the stable are lined with matched planed boards. All the wood work around the stalls is painted in wood color (yellow,) which keeps it in a sweeter condition. The feed boxes or mangers are boarded down to the floor, with slats at the bottom to let weed and other seeds down; these

are removed through small doors in front to keep them out of the manure. The mangers are provided with cast iron quarter-circle feeding troughs, manufactured by Mr. Mott of this city. They are provided with a rim at the top to prevent cut feed from being thrown out. A narrow plank ladder, h, enclosed in slat work, passes from a platform on the outside of the building, up through the corner of the stable, to the poultry

Fig. 2.—PLAN OF BASEMENT.

carry off the rain, but not high enough to prevent animals walking over them. Vent holes are provided to allow the escape of odors from the manure cellar. Through these doors the manure can be thrown up into the yard or upon a cart. Into this area a pipe brings the house slops, as described on page 234.—There are serious objections to having manure cellars under barns or stables, as they are usually built; but as here ar-

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Specifications of the materials and labor required in the erection of a combined barn, coach-house, stable, etc., according to the plans and elevations of the same, as represented in figs. 1, 2, 3, and 4. Prepared by W. H. RANLETT, Architect, N. Y. city.

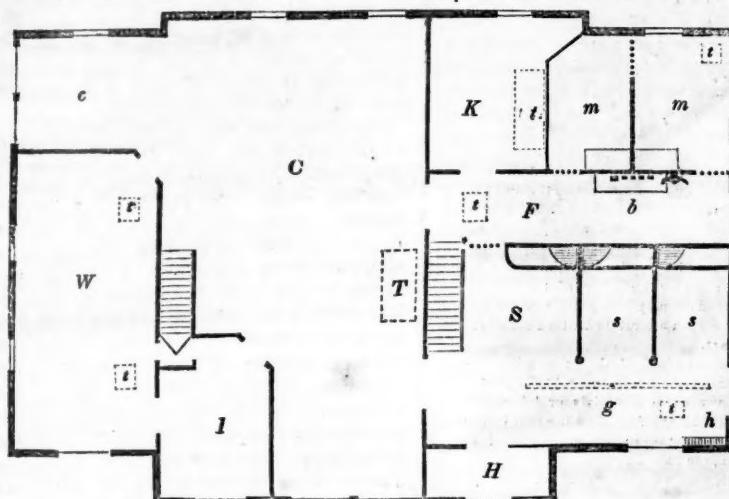


Fig. 3.—PLAN OF MAIN OR GROUND FLOOR.

The Cow Stalls, *m*, *m*, in the north-east corner, are 8 by 6½, and 8 by 5, the larger one for milking in. They are separated by a gate. These are also provided with a trap-door, *t*, for manure, and another above to let down straw. The Feed Room, *F*, 5x18½ is arranged between the heads of the stalls, with a door at either end, and gates to shut it off from the horse and cow stalls. The feed box, *b*, is lined with galvanized iron, and has a pump from the cistern, the spout standing over the right end. Over the center of the feed box are five spouts coming down from above with slide bottoms—the four smaller ones from four feed and grain bins in the loft, and the larger one to let down cut hay or straw. Another larger slide, the lower end above the head, and the upper end covered with a trap-door, lets long hay down at the left end of the feed room. A trap-door to the cellar, *t*, is for taking up roots for the animals. These feed, grain, and hay slides, are a decided convenience....*K*, is a cool room, thoroughly separated from the stables, and ventilated from the outside. Shelves are to be arranged in this for Autumn storage of fruits, and certain kinds of vegetables. A large trap-door, *t*, and stairs, are provided for direct communication with the cellar.

Fig. 4. SECOND STORY.—*L*, is the general hay and straw loft, which gives ample storage, as it is 6½ feet high at the plates, and can be filled up to the ridge-pole. *O*, *O*, are rooms for general storage, especially for drying garden seeds. *D*, is a sleeping room for a man, accessible by the narrow stairs leading up from the work-shop and implement room. These stairs are closely boarded over, which allows hay to be piled on them without being exposed to taking fire from any light carried up to the sleeping room. The main stairway is also boarded over to allow hay to be piled over it. The Poultry Room, *P*, is boarded up on the outside, and thoroughly plastered on the inside to guard against insects. The laying boxes *e*, are provided with stepping boards in front, and they are placed far enough from the wall to admit going behind them for taking out eggs, and for cleaning them. The front of each box is closed except an entrance in one corner large enough for a fowl, so that the laying or setting hens are screened from sight. A board hung on hinges is placed behind each horizontal tier of laying boxes, which can be partly open for ventilation, or be turned up for ready access to the nests. The roosting poles are laid upon

a board. An open pipe extends from the poultry room to the gable ventilator. The lower sashes of the outside windows are shielded with woven wire so that these sashes can be left up for free admission of air except in very cold weather. The location of this room on the south side makes it warmer in Winter. The fowls have free range of the yard which is surrounded by pickets above the fence. They have also admission to the manure cellar by a fowl ladder in the outside area (*A*, *W*, fig. 3).

The various bins, *z*, *z*, *z*, *z*, trap-doors, slides for hay, *x*, *i*, straw, *t*, *t*, and grain, etc., referred to in the description of the main or ground floor,

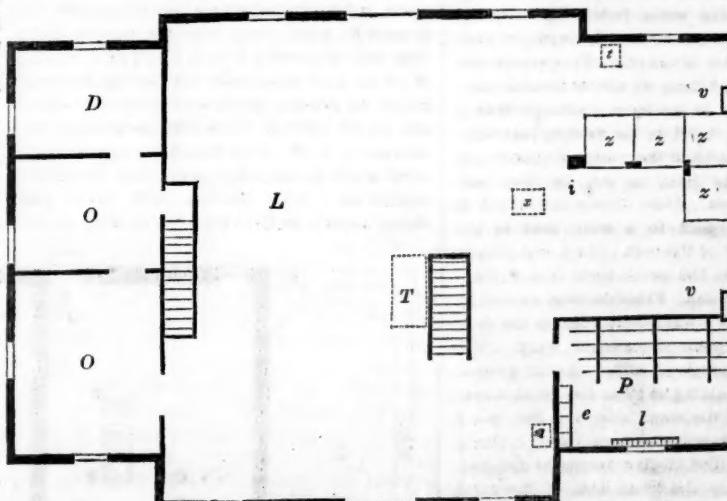


Fig. 4.—PLAN OF SECOND FLOOR.

are indicated in fig. 4. Two pipes, *v*, *v*, from the horse and cow stalls are seen coming up through the floor; they extend to the ventilators in the sub-pediment or gable, and convey off all foul air.

SPECIFICATIONS AND CONTRACT.

As a guide to others who have occasion to build, we present below an exact copy of the specifications and contract made for erecting the above buildings; and we here remark, that it is always desirable to have such specifications, naming every item possible. This enables one to know what his structure is to cost, and prevents after disagreements. In the present instance the specifications were so definite that on the completion of the structure the total sum of

bevel joints cut true and strongly nailed up; the roof strongly supported on the cross girts; door studs 4x6, all other studding 3x4 set 24 inches apart. The sides covered with best sound pine boards, planed, rebated, and strongly nailed on with 8d nails in every stud, post and brace, and not over 5½ inches to the weather, and lap not less than one inch; water table project 4 inches and beveled; corner boards 1½ inch thick properly made.

Cornices on all the sides to be made as represented on the elevation, and put up with moldings and brackets complete—the brackets 14 in. long, 10 in. high, 4 in. thick, and put up in couples on each side. For the Roof: rafters covered with good sound hemlock boards, with close joints, and overlaid with best single cross charcoal tin, put on in the most approved manner, and all the resin removed from the tin before painting; 4 in. tin leaders to convey all the water from the roof to the cistern. Wind frames made and the sashes fitted, the lower sash to slide up; glass 10x14, with 8 panes to each window,



Combined Barn, Carriage House, etc.

BARN, CARRIAGE-HOUSE, WORK-SHOP, TOOL-ROOM, POULTRY-HOUSE, ETC., UNDER ONE ROOF—SUN-DRY LABOR-SAVING CONVENiences—FORM OF SPECIFICATIONS AND CONTRACT.

Last month we gave a plan of a building adapted to a particular location, accessible in both front and rear. We now present a somewhat different plan, and believing that it contains features that may be adopted in different kinds of barns, we will describe it somewhat minutely. This building has been erected on our own premises during the present Summer.

Location—Elevation Plan.—The location is near the north line fence, which prevents driving directly through the main floor. The view is taken from the south-west. A carriage road comes in from the street, directly opposite the west wing, and branching at a little distance, one wagon path leads to the main entrance, with a side road leading round to the yard on east side. Another branch turns to the west and passes in a curve through the lawn to the dwelling, and thence to the street. From this branch there is another carriage path to a wide door in the north-west corner of the barn; also a foot path to the smaller door at the south-west corner, leading into the work-shop. From the road extending into the rear yard, a horse-path runs to the door opening on the south of the east wing. (We can not properly speak of wings, as the general plan is a main building 26 by 45 feet, with a central projection on the south side, of 3 feet, and a similar one on the north side, of 1 foot. These projections are added to give variety of architecture, and break up the broad look of the north and south sides. The engraving gives only the general plan of the plots around the building. Large symmetrical Norway Spruces—not the dwarf firs shown—also tree box, and other evergreen and deciduous shrubs, planted at little cost, give the whole a cheerful aspect for Winter as well as Summer.)

Fig. 2. Basement Plan.—In the middle is the main or vegetable cellar, V. C. By a mistake in the drawing, the wall on the north part of this is not shown projecting a foot, as it should be made. D. W. is a dwarf wall, or foundation. Inside of this is a cistern, C, which is 20 feet long, 8 feet wide, and 7 feet deep. A brick wall is laid around it, plastered on the inside, and grouted on the outside, with hydraulic cement. A plastered brick wall thrown across the middle supports the

long side walls. The bottom is covered with round stones and sand well beaten down, grouted, and plastered. Some hard bricks bedded in the bottom are laid under the entrance of the gutters at each end, to prevent wearing the bottom by falling water. The cistern is covered with an extra floor nailed to the underside of the joists, to keep out frost in Winter. At the south-west corner a cemented brick pipe (not shown) 7 inches in diameter, is carried from about mid-height up out through the south corner of the dwarf wall, D. W. This is provided for the insertion of a fire-engine hose-pipe, in case the barn should be on fire preventing access on the inside.... The Manure Cellar, M C, is surrounded with heavy walls laid in hydraulic cement, and is covered with a double matched floor to prevent odors rising into the stables above. The wall separating it from the vegetable cellar, (V. C.) is built close up to the flooring, and sunk below the general level, so that the two cellars are wholly isolated. The manure cellar extends outside, at A. W. This external portion is of the same depth as the main cellar, and is similarly walled up. It is covered with heavy plank doors, slightly inclined from the building so as to

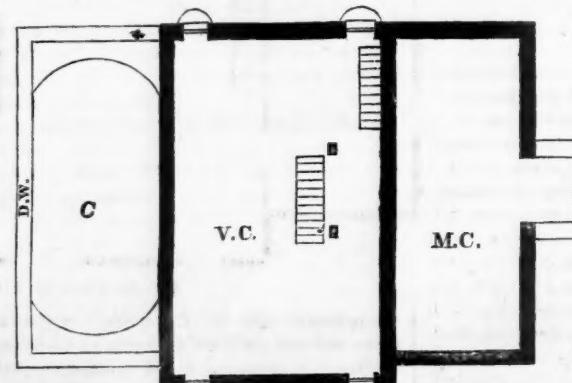


Fig. 2.—PLAN OF BASEMENT.

carry off the rain, but not high enough to prevent animals walking over them. Vent holes are provided to allow the escape of odors from the manure cellar. Through these doors the manure can be thrown up into the yard or upon a cart. Into this area a pipe brings the house slops, as described on page 234.—There are serious objections to having manure cellars under barns or stables, as they are usually built; but as here ar-

ranged, all vapors are kept from the building by the solid cement walls built up to the main floor, and by the tight sub-floor over the manure vault; while the part A. W., extending to the outside, allows all vapors to escape freely into the air. By keeping abundance of muck in the manure, there will be very little escaping gas.

Fig. 3. GROUND PLAN ON FIRST FLOOR.—C, c, is the main carriage floor; C, 30 feet long, and 16 feet wide. An implement room is taken off from one corner. The carriage floor extends round to c, so as to furnish a drive through from door to door, with one carriage standing in the north-east corner, and another under the stairs leading up from I and W. In case of need, the floor will hold four vehicles, and still leave room to run in and back out a fifth one at either door. The large trap-door, T, is convenient for unloading potatoes, turnips, carrots, etc., directly from a wagon tail into the vegetable cellar. Directly over this trap-door is another, so that pumpkins, squashes, and other articles, can be raised from a wagon to the loft above. On the approach of cold weather these articles can be lowered with basket, rope, and pulleys, from the upper loft to the cellar, through the two trap-doors. This is a convenient arrangement that might be adopted in most barns. Many articles keep much better in an airy loft than in a cellar, until severe cold weather comes on. W, is a work shop 9x17 ft., provided with work bench, etc. This opens into the implement room, I, where are stored all smaller implements, earthen pots, and other apparatus pertaining to the garden. It is accessible by a door from the outside, and another at the corner leading from the carriage floor. The cutting off of the corners of I and W diminishes their space very little, while it conveys greatly to the roominess and convenience of the carriage floor.... The Horse Stable 12x18, has two single stalls, s, s, 4½ ft. each, and a larger one, S, which may be used for harnessing, or for one or two horses when required. A first floor is laid of tongued and grooved 1½ inch plank, and over this, tongued and grooved 2 inch plank, inclined 1 inch to 2½ feet to carry off water. In the rear of the horses a plank, g, 4 inches wide is laid in on a level with the floor, and a groove is cut in this slanting towards a hole in the middle which conveys the urine down to the manure cellar.

A double plank trap-door, is provided for dropping manure through... H, is a close room for keeping nice harness, blankets, buffalo robes, bells, whips, etc. This has an outside window in a mock door. The common harness is hung under the stairs and around the stable. The studs around the stable are lined with matched planed boards. All the wood work around the stalls is painted in wood color (yellow,) which keeps it in a sweeter condition. The feed boxes or mangers are boarded down to the floor, with slats at the bottom to let weed and other seeds down; these

are removed through small doors in front to keep them out of the manure. The mangers are provided with cast iron quarter-circle feeding troughs, manufactured by Mr. Mott of this city. They are provided with a rim at the top to prevent cut feed from being thrown out. A narrow plank ladder, h, enclosed in slat work, passes from a platform on the outside of the building, up through the corner of the stable, to the poultry

room above. There is a trap-door above, outside the poultry room, to let down straw for bedding.

three strips inclined against the wall. These poles and the boxes are movable, so that every

part can be taken out and thoroughly cleansed and white-washed as often as may be needed. The room can be purified with fumes of burning sulphur, or with chloride of lime. The fowls are readily taught to go up and down their enclosed passage way by dropping a little corn upon the ladder,

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The MASON to make all the necessary excavations for the cellars, foundation walls, cistern and areas; grade the surplus earth properly around the building on a slope of 1½ in. to the foot, and remove all rubbish when the building is complete. The manure and vegetable cellars to extend under all the stalls and the large coach room, with proper divisions, areas, and outlets. The walls of the manure cellar laid up 18 inches thick with hydraulic cement mortar, 3 parts sharp sand and 1 part cement; the division wall to be bedded 6 in. deeper than the outside walls and built up to the floor; vegetable cellar and foundation walls, 18 in. thick, laid up with best lime mortar; cellar 6½ feet deep; dwarf walls 3 feet high; all the walls laid up with good building stone. Cistern made oval, 20 feet by 8 feet, in the clear, and 7 feet deep, with a partition across the center; the walls laid up with bricks in best cement mortar, 2 parts sand and 1 of cement—4 inches thick and grouted behind—the bottom laid with brick upon the edge and grouted with cement, and the whole interior to be well plastered with cement mortar and washed; to be 8 by 16 inch brick piers where required in the cellars; also circular area walls of brick around

the cellar windows. The fowl room to be lathed and plastered, one heavy coat of lime, sand, and hair mortar, whitewashed.

The CARPENTER to furnish and put up a good frame of sound spruce or pine sawed timber, well framed and braced in every part; the sills, posts, and plates, 4x8 and 4x9; girts and interties 4x6; first tier of beams 3x9, set 24 inches apart; second tier 3x9, 16 inches between centers, with one tier of cross bridging over the coach room; chestnut girders 6x6; valley rafters 2x10; main rafters 2x8, and jack rafters 1½ by 8, set 20 inches apart,

bevel joints cut true and strongly nailed up; the roof strongly supported on the cross girts; door studs 4x6, all other studding 3x4 set 24 inches apart. The sides covered with best sound 4½ pine boards, planed, rebated, and strongly nailed on with 8d nails in every stud, post and brace, and not over 5½ inches to the weather, and lap not less than one inch; water table project 4 inches and beveled; corner boards 1½ inch thick properly made.

Cornices on all the sides to be made as represented on the elevation, and put up with moldings and brackets complete—the brackets 14 in. long, 10 in. high, 4 in. thick, and put up in couples on each side. For the Roof: rafters covered with good sound hemlock boards, with close joints, and overlaid with best single cross charcoal tin, put on in the most approved manner, and all the rosin removed from the tin before painting; 4 in. tin leaders to convey all the water from the roof to the cistern. Wind doufframes made and the sashes fitted, the lower sash to slide up; glass 10x14, with 8 panes to each window.

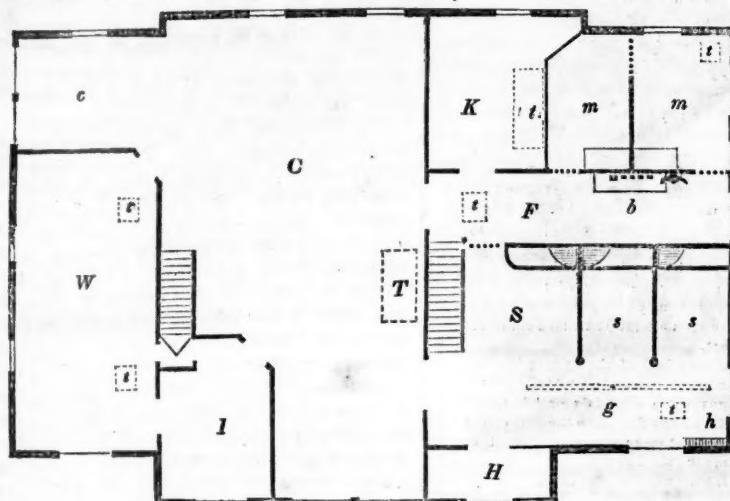


Fig. 3.—PLAN OF MAIN OR GROUND FLOOR.

The Cow Stalls, m, m, in the north-east corner, are 8 by 6½, and 8 by 5, the larger one for milking in. They are separated by a gate. These are also provided with a trap-door, t, for manure, and another above to let down straw. The Feed Room, F, 5x18½ is arranged between the heads of the stalls, with a door at either end, and gates to shut it off from the horse and cow stalls. The feed box, b, is lined with galvanized iron, and has a pump from the cistern, the spout standing over the right end. Over the center of the feed box are five spouts coming down from above with slide bottoms—the four smaller ones from four feed and grain bins in the loft, and the larger one to let down cut hay or straw. Another larger slide, the lower end above the head, and the upper end covered with a trap-door, lets long hay down at the left end of the feed room. A trap-door to the cellar, t, is for taking up roots for the animals. These feed, grain, and hay slides, are a decided convenience.... K, is a cool room, thoroughly separated from the stables, and ventilated from the outside. Shelves are to be arranged in this for Autumn storage of fruits, and certain kinds of vegetables. A large trap-door, t, and stairs, are provided for direct communication with the cellar.

Fig. 4. SECOND STORY.—L, is the general hay and straw loft, which gives ample storage, as it is 6½ feet high at the plates, and can be filled up to the ridge-pole. O, O, are rooms for general storage, especially for drying garden seeds. D, is a sleeping room for a man, accessible by the narrow stairs leading up from the work-shop and implement room. These stairs are closely boarded over, which allows hay to be piled on them without being exposed to taking fire from any light carried up to the sleeping room. The main stairway is also boarded over to allow hay to be piled over it. The Poultry Room, P, is boarded up on the outside, and thoroughly plastered on the inside to guard against insects. The laying boxes e, are provided with stepping boards in front, and they are placed far enough from the wall to admit going behind them for taking out eggs, and for cleaning them. The front of each box is closed except an entrance in one corner large enough for a fowl, so that the laying or setting hens are screened from sight. A board hung on hinges is placed behind each horizontal tier of laying boxes, which can be partly open for ventilation, or be turned up for ready access to the nests. The roosting poles are laid upon

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As a guide to others who have occasion to build, we present below an exact copy of the specifications and contract made for erecting the above buildings; and we here remark, that it is always desirable to have such specifications, naming every item possible. This enables one to know what his structure is to cost, and prevents after disagreements. In the present instance the specifications were so definite that on the completion of the structure the total sum of

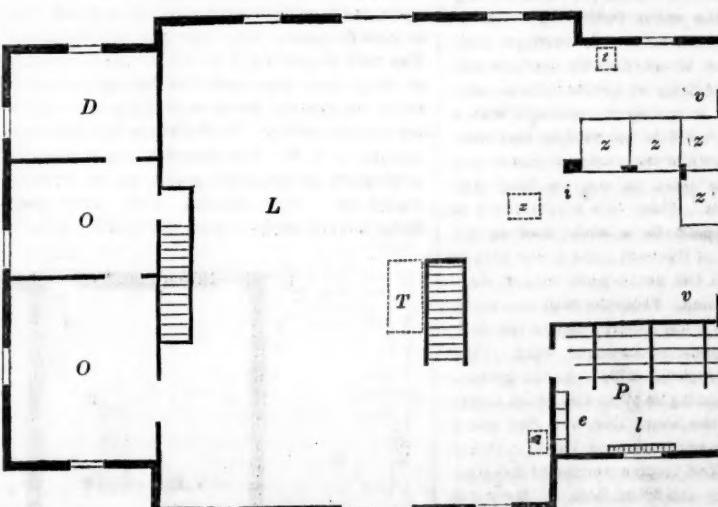


Fig. 4.—PLAN OF SECOND FLOOR.

good strong batton shutters made and hung to all the windows on the inside of first story with proper fastenings and back catches; the windows on the east side, 12 lights, each 9x13; 3 windows in cellar, 6 lights, 10x12, with shutters hung at the top on the inside.

Doors outside, made of narrow clear tongued and grooved 1½ white pine plank, planed both sides, and strongly nailed to 3 battens each; four of the single doors and one pair of the double doors, each to have a sash of 3 lights 8 by 14 in. glass, set in, and molded on the outside; front door 8 feet by 9 feet high; end door 7 feet by 8 feet high; all other outside doors 3 feet by 7 feet high; inside doors, such size as may be required by proprietor, of 1 inch boards planed both sides, tongued and grooved, and strongly battened. Four octagon and circular blind ventilators in the sub-pediments, each 2 feet diameter; the blind slats to be put in to prevent water and snow from driving in. Floors to be laid with 1½ in. milled spruce plank strongly nailed to the beams; carriage floors laid with 2 inch spruce plank worked; floors in cow and horse stalls to be overlaid with spruce plank 2 inches thick, tongued and grooved and to incline 3 or 4 inches; a suitable plank gutter to convey the urine to the manure cellar; two trap doors from the horse and cow stalls to manure cellar, made double and strongly secured; trap door in the carriage room to vegetable cellar, 3 by 5 feet, and one directly over it of same size; one in the vegetable room 2½ ft. by 6 ft.; and one 2 by 2½ feet from feed room to vegetable cellar, all to be battened and strongly made; also trap doors to let hay from second story to feed room, and straw down behind horses and cows. All partitions between rooms on first floor set with milled spruce plank planed both sides and strongly nailed top and bottom and in the middle to the 2x4 planed strip; partitions up stairs of boards ½ thick, milled and planed one side; partitions to fowl room set with 2x4 strips, 16 inches between centers, for plastering; division between horse stalls of 2 inch plank, 6 feet high, hip posts to be 6 in. round, and secured to the floor and ceiling; division in the cow stalls, 4½ feet high; fronts of all the stalls 4 ft. high; the outside of horse and cow stalls lined up with milled spruce plank. Four gates, 4½ feet high, in the several stalls. All the bins and cribs made of 1½ milled plank planed both sides and strongly put up; the slides and two ventilators made of ½ milled boards planed on both sides with 1½ by 4 in. bands on the outside. The stall ventilators to connect with one of the semi-pediment blinds for an outlet. Stairs made strong with 3 in. strings, 1½ in. steps, lined with milled boards on the under side, the sides and top enclosed; a strong step ladder from vegetable room to cellar; and a movable step ladder from carriage floor to vegetable cellar under trap door. The manure cellar to be covered with common white pine plank, the joints battened; the outside area to incline; and to have a trap door of sufficient size strongly hung—suitable plank bridges to the carriage doors; to be a ledge ladder 10 inches wide from the outside, through the horse stall, to the fowl room above, enclosed with slats, for the fowl entrance to their room, which is to be fitted up with roosts made of 2 in. round sassafras poles, and laying boxes 4 tiers high and 5 long, open in front, the holes 7 in. by 8 in., lids on the back, hung by butts and secured with buttons; boxes 14 inch cube inside.

Large doors hung by 30 inch straps and hooks, second size doors by 20 inch straps and hooks, both pairs secured by swivel bars fitted to work with ease; all other outside doors and two pairs shutters in hay loft hung by 16 inch straps and hooks, and to have good strong thumb latches to the doors and iron hooks to the shutters; three of the outside doors to have good 6 inch dead locks with brass keys, the other outside doors to have strong bolts; interior doors hung by H L hinges, large size, and secured by wrought thumb latches; gates hung by 4 in. butts, and secured by 6 inch round bolts; trap doors to cellar and loft hung by straps and plates, and all the trap doors to have good strong flush lifting rings; manure cellar trap door hung by strap hinges, cellar sashes to hang by butts and be secured by bolts.

PAINTING.—All the outside of the building and the insides of all the outside doors, window shutters both sides, all the partitions and divisions in first story, to have one good coat of white lead and linseed oil, and one coat of best zinc paint and linseed oil put on at proper times; the tin roof and leaders to have two coats of Ellery's India Rubber paint.

The building is to be complete in every part; and if any thing is omitted, necessary to complete it according to the drawings, it is to be done by the contractor without extra charge.

CONTRACT WITH BUILDER.

Memorandum of an agreement made this first day of _____, 1860, by and between _____, of the first part, and _____ Builder, of the second part, in the words to wit:

The party of the second part, for a consideration herein-after-named, doth agree for himself, his heirs and as-

signs, to furnish all the materials and labor required, and erect and build up for the party of the first part, a Barn and Stable combined, according to the specifications hereto annexed, with plans and elevations accompanying the same, in every part, on or before the —th day of —next, accidents by fire excepted. And for the true and faithful performance of all the above and singular, on the part of the party of the second part, the party of the first part, doth agree for himself, his heirs and assigns, to pay or cause to be paid to the party of the second part, the sum of — hundred and — dollars,* lawful money, in several payments as follows: when the building is enclosed one third of the full amount; when floors are laid and one coat of paint on the outside, one third of the full amount, and the remaining one third of the whole amount when the building is completed and approved by the superintendent.

Any alterations that may be required by the party of the first part, shall be made by the party of the second part, and the price agreed upon by both parties before doing the work, otherwise such alteration will be considered a part of the contract.

And it is hereby agreed by both of the contracting parties, that any difference of opinion as to quality of materials, the charge for any extra materials or labor, the damage to the proprietor by any failure on the part of the builder to complete the structure in the manner, and at the time specified, etc., etc., shall be referred to the superintending architect, whose decision shall be accepted as final.

Signed _____, L. S. Party of the First Part.
Flushung, N. Y., _____, 1860.

* The contract was first drawn in this form, but subsequently the painting and some other items were assumed by the proprietor, for the purpose of experimenting with paint, etc. The whole cost of the structure complete, including alterations, architect's fees, etc., was fourteen hundred and eighty four dollars and sixty cents.

Chickens Versus Insects.

The birds will capture many of these pests of the garden, and so will toads. Bottles of sweetened water hung around on trees and bushes and vines, will entrap multitudes. Boxes covered with glass, or millinet, or oiled cloth, will protect melons and squashes from the striped bug and his cousins. But the old fashioned method of using chickens is one of the best. Bring the coops into the garden, and keep them there until the chickens are as large as quails: after that they will begin to scratch and do other injury, and should be put out. Bring in new broods as fast as the others are removed. If grasshoppers invade the garden, large chickens should be kept to fight them; and they will do it effectually.

Training the Peach Tree.

The following, translated from the Revue Horticole, contains principles applicable to the care of Peach trees in any climate. The great extremes of temperature in this country render proper pruning even more necessary than in France. Our fervid Summers often induce a growth of wood which must suffer severely during the inclement months, unless checked and hardened by cutting back.—ED.

Left to itself, the Peach tree, whether budded or not, pushes vigorously for the first two years. In the third, its lower branches near the fork become weak, and decay, and vigor is only maintained in the extremities of the main branches. The evil is not great at first, but it increases every year; the upper shoots make less growth, and by the Spring of the third year, one-third at least of the shoots perish. At the age of eight or ten years, a Peach tree that has never been pruned, exhibits only a few weak twigs situated at the extremities of the strongest branches. In violent gales, such as we experience in the south of France, the branches, bending under a load of fruit, are split from the stem; the fruit is lost, and one may consider himself fortunate if the tree survive the mutilation. If the splitting of the

tree does not cause its death, yet it leaves it one-sided, and the portion left is so much more exposed to the action of the wind, that, by its swinging, the fruit is tossed to a considerable distance, and is destroyed.

When the Peach tree is not pruned, its branches droop owing to the weight of the fruit, and the cultivation of the ground is consequently much more expensive because draft animals can not pass under the trees, and the soil has to be worked by the spade. Now ten good workmen would scarcely do so much in a day as one would in the same time with a plow drawn by good cattle; and I hold that the great secret of successful cultivation consists in obtaining the greatest and best amount of produce with the least expenditure of time and money.

Having pointed out the evil, I now proceed to the remedy which with me has proved successful. The art of pruning consists in aiding Nature. Remove from the tree that which only weakens it; induce a flow of sap towards the weak parts; or maintain, in short, a proper equilibrium between the production of fruit and that of young wood for bearing in the following season, for the Peach bears on the one-year-old shoots, and never on the older wood.

My orchard is situated in a plain; the soil is a light, very deep, sandy clay; the trees are planted in rows 13 feet apart each way; the intervals are sown with Lucerne, but not within 2½ feet of the trees; the ground is plowed in Spring. Every third year when the roots of the trees are uncovered, I put to the foot of each tree some half-rotten dung, and over this two good handfuls of half-slacked lime. Since I adopted this proceeding, the trees have made shoots from 30 to 40 inches long.

If we leave a Peach tree for a year without pruning it must suffer from the cutting necessary to bring it into proper form. In the second year I commence giving the branches their right direction. On account of the violent and prolonged high winds which prevail in the south of France I limit the height of the stems to about 2½ feet, so that for several years there is no necessity for using a ladder.

When a young shoot is cut with a very sharp knife, gumming does not take place. I am no advocate for disbudding, which sooner or later induces that disease.

Supposing we have before us a Peach tree three years old, and which has been allowed full liberty of growth. Before touching the tree it is necessary to understand why such and such branches should be cut; and the form which the tree ought to take should be constantly kept in view.

1st. I commence by removing all the horizontal and drooping branches from the outside of the principal branches. I do so because these branches, being most exposed to the air, extend much, and cause the tree to lose its form by the weight of fruit which they bear. The weight being more easily borne on a perpendicular than on a horizontal support, it is well to preserve for the principal branches those that are the most upright.

I suppress all the exterior branches in order to give the tree a goblet form. On this form the wind acts generally, and consequently it offers more resistance and less elasticity than a single branch, so that the fruit is not so liable to be shaken off.

2d. The tree being formed, it is no longer necessary to encourage the vigor of the tree or the flow of sap chiefly to the extremities of the principal branches, but rather to the branches which produce succession shoots; for the more these

are increased, the greater is the chance of an abundant crop, as the fruit is only borne on the one-year-old wood. I do not mean to say, however, that we ought, every month, or oftener, to shorten all the shoots which a tree may produce in the course of the year. No. This would be impossible in cultivation on a large scale; and besides it would cripple and stunt the tree; for many of the twigs or laterals so produced would perish in Spring following. This always happens where there is too much spray; and when the tree becomes like a bush, it produces only small fruit. It should be recollect that if a tree grows too much to wood, it will produce but little fruit, and *vice versa*. We should therefore endeavor to maintain, as above recommended, a proper equilibrium between these two productions.

3d. In order to attain this object I pinch all the extremities of the branches to a variable length, according to their position and the vigor of the tree, rarely however to less than 8 or 10 inches; and I always cut to a bud pointing inwards for a leader. This, with me, is an invariable rule; and I always choose the most vigorous double buds.

If a tree runs up too high and at the same time is naked at the bottom, I cut back all the new upper branches to five or six buds. This proceeding checks the flow of sap to the top, and generally induces shoots to push from the naked parts below. If the shoots so produced attain the length of one foot, I cut them back for two seasons to four or five buds. When these young branches are in a condition to take the place of the old, the latter are cut back in the course of a year, but not all at the same time: the wounds are covered with grafting wax.

To Promote Fertility in Fruit Trees.

Every orchardist must have observed that some fruit trees of superior quality and of luxuriant growth, are yet slow in coming into a bearing state, and are afterwards inconstant. This is the case especially with the pear tree. Let us note down some of the methods proposed for remedying this evil:

An abundant and rapid flow of sap tends to the growth of new wood and leaves, rather than to the formation of fruit-buds. Whatever checks this flow, will excite the production of flower-buds. For example, select a vigorous evergreen which has thus far shown no cones, and transplant it, and next year it will be covered with seed-vessels. So it is often with fruit trees. The check thereby given to the growth of roots and branches, causes the organizable sap to accumulate in the branches, and directs it to the formation of fruit. Hence it is, that formal root pruning is sometimes practiced. As this process is described in nearly all fruit manuals, we will only remind the reader that it should be practiced only in the fall or winter. Mr. Rivers of England, as nearly everybody knows, no sooner catches any of his dwarf pears napping, than he lifts them from the ground and sets them back again. Fruit bearing is quite sure to follow.

Ringing the branches is another method. This consists in taking out a circular section of bark, about an inch wide, on several branches of the tree. The effect of this is to prevent the return of elaborated sap from the tops of the branches to the limbs and roots below, and almost always produces the formation of fruit-buds. This practice is not to be generally commended: it robs the lower portions of the tree of the proper food, and renders the girdled branches useless afterwards.

Bending the branches downward, is another and better method. This impedes both the ascent and descent of sap, and causes its accumulation all along the branches in the form of fruit buds. Who has not observed that a crooked apple-tree often bears better than a perfectly straight one? And one with a flat, spreading head, better than a pyramidal one? Hence we see the wisdom of a practice common among nurserymen, of removing the central branches of young apple trees. This bending down of the branches should be done in June or July, while the shoots are most flexible.

Training the branches to a wall or trellis, is another method. The slight compression of the ligatures, and the bending of the branches, causes a check of the flow of sap, and so induces fruitfulness.

A Timely Hint for Tree Planters.

Who has not observed that many trees, such as the pear and cherry, the tulip-tree, and horse-chestnut, are often injured on the south and south-western sides? This is probably caused by the scalding heat of the sun on the bark, during mid-summer, or its rays in early Spring, thawing out the frost, only to be succeeded by hard and sudden freezing. Were trees differently trained from the beginning, perhaps this injury would seldom be suffered. If branches were allowed to grow along the entire trunk, or at least enough to shade the entire stem from the sun, probably the bark would remain perfectly sound. For trees which have been denuded of their lower boughs, we would recommend a light band of straw or hay wound loosely around the trunk from the bole up to the branches. For large trees upon a lawn, it will answer nearly as well to set up half sections of the bark of other trees on the exposed sides, tying them neatly to the trunks.

Wine from Native Grapes.

The multitude of grapes now being planted in every part of the country, must soon furnish fruit enough for the market and for wine-making. Quite large experiments have already been tried in wine-making, even in New-England and in New-York last year. One firm in Boston manufactured twenty thousand gallons of wine from grapes grown on the Charles river. A grape grower's association in Connecticut is doing much towards awakening an interest and diffusing information on the subject of grape culture and wine making.

All admit that the Catawba grape, as grown in Ohio, Kentucky and Missouri, makes an excellent wine; the question is, whether other native grapes will do the same in States further north. We might, as moralists, raise another query; whether, if they would do so, the extensive manufacture of wines for common use would be likely to promote the cause of temperance and public virtue. But we waive that point, now, much as might be said upon it.

The wine tasters tell us that thus far, the leading defect in our native wine-grapes is the lack of sugar and of tartaric acid, two main elements in good wine. To bring our northern wines up to the required standard, it has been found necessary to add from two to three pounds of sugar to one gallon of grape-juice. Some use clear honey, and think it imparts a very fine flavor. But a perfect wine grape would require no such additions.

It has been laid down as a rule by some experienced vintners, that no grape is fit to be called a

wine grape which will not, in drying, become a raisin. Where is the American grape that meets this requirement? Even the Catawba does not, in the favorable climate of Ohio. Others again, say that wine grapes must grow on soil of volcanic origin; and in confirmation of this, they remind us that the best foreign wines grow in such regions. May we not, then, expect much from the wines of California?

So far as we yet have learned, the Clinton grape yields the best wine in the northern States. This wine possesses that rich nutty flavor which characterizes the best imported sorts. The Delaware also promises well. Fastidious wine tasters may call our native wines "mere cordials," "weak syrups," or what they please; but we firmly believe they are better for our health and our morals than the foreign wines, most of which are adulterated.

My Winter Killed Vines.

A subscriber writes us in great sorrow, complaining that his two Isabella grape vines, planted on the south side of his house in a rich border, have grown six or eight feet high for two Summers past, only to be killed to the ground every Winter. He gets a handsome growth of canes every Summer, but no fruit. What shall I do? he inquires.

Your case is a plain one, Sir. Your vines are in an excellent position, considering your cold climate, but the canes need taking down from the trellis every Autumn and covering with litter or common soil. Next Fall, we advise you to cut away full half of the mass of canes growing this Summer, and leave only the strongest and best ripened wood. Lay these on the ground, about the first week in November, fastening them down by short stakes, then throw on them just soil enough to cover them from the sun. The buds will thereby be kept dormant until Spring. Then, but not too early, uncover the canes, let them lie on the ground ten days or a fortnight, tie them up on the trellis about the tenth of May, and we will warrant you vigorous vines and abundant fruit. Try it and see.

Silver-Leaved Shepherdia.

We wonder that so little attention is paid to the silver-leaved Shepherdia (*Shepherdia rhamnoides*). It has leaves shaped like the willow, with a sort of greyish or silvery tinge like the Olive. It grows from six to ten feet high, blossoms quite early, and retains its foliage late in the Autumn. It has berries about the size of large black currants, which are quite pleasant to the taste. Though originating south of Albany, it is hardy north of that latitude; it also transplants as easy as a lilac. Group this bush with the American and European Euonymus, and the purple leaved Berberry, and the effect will be quite striking.

It was first discovered, we believe, by Prof. Nuttall, in the forests of Missouri, in the year 1810, and named in honor of his friend Mr. Shepherd, of Liverpool, England.

"Sir," said a little blustering man to a religious opponent, "to what sect do you suppose I belong?" "Well, I don't exactly know," replied the other, "but, to judge from your appearance, and the buzz you are making, I should think you belong to the class called *in-sects*."

In these days of crinoline the world of fashion is truly "a wide, wide world."



Phalaenopsis—An Orchid or Air Plant.—
(*Phalaina*, a moth, *opsis*, resemblance.)

BY DR. JAMES KNIGHT.

The above figure is intended to represent *Phalaenopsis grandiflora*, the specimen most commonly found in collections of Orchids, and generally admitted to be nearly equal in beauty to *P. Amabilis* (the first introduced); and a much more free growing variety, bearing a greater number of, and larger flowers.

This most singular and very beautiful species of air-plant, was discovered by Dr. Blume, a noted Botanist, on the coast of Nusa Kambanga, India, where it was growing on thick low trees, covered with moss, coiling its rope-like roots round the branches, and hanging in entangled tufts, suspended in the air. *Phalaenopsis Amabilis* being the first variety discovered, was sent to England in 1836, and first flowered in the establishment of Messrs. Rollinson, of Tooting near London, and as we have been informed, the sum of fifty pounds sterling (\$250) was asked for a single plant! and we know of one recently imported to this country, that cost eight pounds sterling (\$40) at London. The price of *P. grandiflora*, rates at the present time, at from three to four pounds at the Messrs. H. Low & Co.'s Clapton nurseries near London, the largest importers of East India Orchids, in England.

The flowers of *P. grandiflora* grow upon a scape or flower stem, arising from the root of the plant to about eighteen inches in length. It bears from eight to ten flowers, each flower measuring about three inches across, resembling a most beautiful white winged butterfly; the body or center is shaded with a brilliant luster of golden yellow. These flowers are all in perfection and expanded at one time. We had one about a year ago in bloom, that we exhibited to the Farmers' Club at the American Institute, that remained in flower five weeks, in perfect form and color. J.

when growing; and a few degrees less when at rest—giving plenty of moisture when growing. Hon. Mr. Van Vorst of Jersey City, who has the largest collection of East India Orchids in this country, grows *Phalaenopsis*, and to great perfection, in pots filled with Sphagnum and broken potsheads, and placed over large pans of water; over which his other fine orchids are also grown, and are thus protected from insects, that are very annoying under ordinary modes of treatment.

Ensuring Germination of Seeds.

It is often desirable to secure plants from seeds that, by reason of improper packing, long keeping, or other unfavorable influences, have lost much of their vital power, and which can not be made to germinate under ordinary treatment. The following suggestions, which we extract from a foreign publication, are of practical value, especially to those receiving new seeds from abroad:

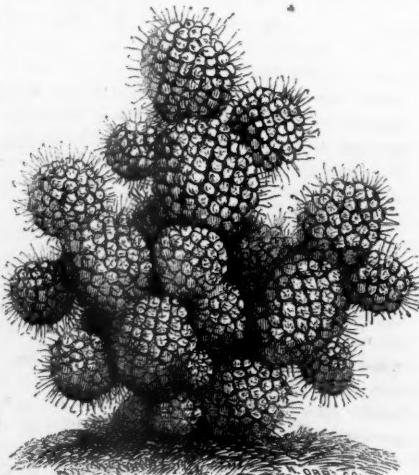
"If seeds have become sickly or feeble, from age or other causes, some precautions become necessary, to which, under other circumstances, no attention requires to be paid. When the vital energies of a seed are diminished, it does not lose its power of absorbing water, but it is less capable of decomposing it. The consequence of this is that the free water introduced into the system, collects in the cavities of the seed, and produces putrefaction; the sign of which is the rotting of seeds in the ground. The remedy for this is to present water to the seed in such small quantities at a time, and so gradually, that no more is absorbed than the languid powers of the seed can assimilate; and to increase the quantity only as the dormant powers of vegetation are aroused. One of the best means of doing this is to sow seeds in warm soil tolerably dry; to trust for some time to the moisture that exists in such earth and the atmosphere for the supply required for germination; and only to administer water when the signs of ger-

mination have become visible; even then the supply should be exceedingly small. If this is attended to, carbonic acid is very slowly formed and liberated; the chemical quality of the contents of the seed is thus insensibly altered, each act of respiration may be said to invigorate it, and by degrees it will be brought to a condition favorable to the assimilation of food in larger quantities. Mr. Knight used to say that these effects were produced in no way so well as by enclosing seeds between two pieces of loamy turf, cut smooth, and applied to each other by the underground sides; such a method is, however, scarcely applicable to any except seeds of considerable size."

The London Gardener's Chronicle states that, by the careful application of the rule above, printed in italics, raspberry seeds which had been buried 1600 years, were caused to grow.

Cactuses.

Few plants more quickly attract attention in a large collection, than the cactuses. Their curious habits of growth, grotesque forms, and brilliance of flower, place them among the most desirable for indoor culture. They have also the advantage of enduring great neglect, being content with the poorest fare, asking only sufficient heat for their comfort. They are all natives of America, being found in the tropical regions, and some of them occupying situations where scarcely any other plant could endure. The most thin, arid, rocky soils, where rain fall is unknown for months, will still sustain the leathery, spiny cactus. The tough enveloping epidermis allows but slight evaporation of the sap, hence but little water suffices for their wants. The number of the different species is quite large. Recent explorers of the proposed route for the Pacific Railroad, found many new cactuses, some of which were marvels of vegetation. They take various shapes, some being mere creeping stems, others having the form of large spiny melons deeply ribbed. The stems of one species resemble hideous green snakes or rather caterpillars; others, again, ascend with large angular trunks to 30 feet high.



MAMILLARIA WELDII.

The plant here illustrated belongs to the genus *Mamillaria*, of which there are some seventy species. This is known as *Mamillaria Weldii*. It is easily propagated. One of the tuberculous looking leaves introduced to a pot of soil composed of four parts loam, two of leaf mold, and one of sand, watered once a week during Summer, will need no further attention. It will need the protection of the house and fire heat during Winter and will repay these little attentions by a very pretty show of bloom in the Spring.

Nice Strawberries for 75 cts. a Bushel.

Mr. Pardee says, large, nice, delicious strawberries can be grown for 50 cts. a bushel. Others put the cost at \$1 per bushel. Both parties are right, for under some circumstances of soil, locality, etc., they can be produced as low as 50 cts. per bushel, while under other circumstances the cost may be more than \$1. But judging from our own experience, and from considerable inquiry and observation, we think the average cost of the large improved strawberries need not be over 75 cents per bushel. We have found no difficulty in getting a bushel to the half rod, in garden culture, and he must be a very poor cultivator, or have a soil not fit for any crop, who could not get a bushel from a square rod. The time required to attend a rod of ground ought not to exceed 50 or 75 cents a year.

Plants of the better kinds are now so abundant that the cost of the small number required to start a bed is hardly to be taken into the account. A dozen thrifty plants, well set out in the latter part of August, or fore part of September, will sometimes furnish a considerable number of new plants for Spring setting; and during the following season they will yield some fruit, and by Autumn, plants enough to supply a neighborhood. (From ten plants set May 1st, we had 600 to 700 plants in Autumn, and after parting with 300 the next Spring, the remainder multiplied to full 10,000 by the Autumn following.) Some kinds multiply much more rapidly than others.

CULTIVATION.—This is no more difficult than that of corn or potatoes. The whole directions may be compassed in a few words: Dig the soil deep; manure it well with rotten manure; set out the plants with as much care as is required for cabbage plants; afterwards keep the weeds out; remove the runners when they set too thickly; and—pick the berries. Of course a good soil yields better plants and berries than a poor one. A moist, but not wet soil is preferable. If you have plenty of plants, set them a foot to eighteen apart, and keep them well thinned. Just plants enough to nearly cover the ground will yield more and better berries, than a crowded mass of vines and leaves. If you have but few choice plants, set them two or three feet apart, and let them fill up the space. Early in Spring is the best time to set out plants, but you will save a year, now, by planting in the latter part of Summer, or early in Autumn. If to be carried far, the cooler weather after the 10th of September is best; but when to be out of the ground only a short time, a day or so, they can be moved at any time. Take them up with as little breakage of roots as possible, dig large holes, pour in a quart or two of water, put the roots in the water, fill up with good soil, letting the top half inch of filling be dry earth to prevent surface baking, set the crown or head a trifle above the level of the bed, and keep the soil off from it. By following this method, we have moved strawberry plants during every summer month, and with little or no loss, and but slightly checking the growth.

BEST VARIETIES.—There are a number of improved varieties of strawberries, any one of which is vastly superior to the common wild kinds. It is desirable to have in every garden as many as two or three kinds, to give variety, and also a longer bearing season. For a single sort, everything considered, we should recommend *Wilson's Albany Seedling*. This is a large, beautiful berry, a great bearer, endures carriage well, and is now so abundant that the plants can be got almost everywhere for \$1 to \$1.50 per 100. It is rather too acid for our liking, but

the prolific bearing makes up for the extra sugar required. Next to the *Wilson's Albany*, we like *Hooker's Seedling*. On our grounds this is a free grower, bears very well, is a pretty large berry, and the flavor is excellent. It has done better with us this year than ever before. *Jenny Lind*. About the same may be said of this as of the *Hooker*, though it does not bear quite as freely. The above are all "perfect plants," and require no other kind to fertilize them. *Hovey's Seedling*. This is a beautiful berry, long known, and in many localities has given excellent satisfaction. It is a good market berry, as, from its size, form, and color, it makes a fine show. It is a pistillate, and therefore requires some staminate or perfect kind growing near, to fertilize it. *Longworth's Prolific*, a "perfect variety," is a free grower, bears

abundantly; berry large, but not equal to *Wilson's Albany* in productiveness, beauty of form, and not superior to it in flavor. *Peabody's Seedling* still continues to do well with us, and we know of several persons who place it in the highest rank. We like its fine pine flavor so well that

we should be loth to part with it; but in most places its reputation for poor bearing is such, that we can not recommend it for general culture. We have a dozen other varieties in cultivation, but are not yet prepared to positively recommend any of them to those who grow strawberries for their own use only. The foreign sorts, *Trollope's Victoria*, *Triomphe de Gand*, and a few others promise well. Those above named will furnish a sufficient variety of good, well tried kinds.



Fig. 1.—AUSTIN SEEDLING STRAWBERRY.

"*The Austin Shaker Seedling*."—Among the new varieties offered to the public this year, is the one bearing this name. The claims of the propagators were pretty fully set forth in our advertising columns, in June and July, to which we refer the reader. The proprietors are doubtless conscientious in the belief that this variety surpasses all others—at least they have manifested their sincerity by their method of bringing it before the public, as they have promised to consider no orders binding until all persons ordering have seen the plants and berries, and become satisfied as to their merits. According to announcement, both the plants and fruit, (two fresh supplies per week,) have been on exhibition at our office since June 18th. We have sketched, and engraved, on a reduced scale, the first plant exhibited here. Several of the leaves are omitted to show the fruit, and only one fruit stalk is represented. Figs. 2 and 3 are exact sketches of the size and form of two average sized berries taken from the first lot of fruit. Those since sent in have averaged larger. An intelligent friend who has recently visited Watervliet, tells us that all the berries on the entire plot of $\frac{1}{4}$ acre, will average larger than these here shown. The plant is hermaphrodite or perfect, very thrifty, the leaves large, and the fruit-stem strong and tall, which are very desirable qualities. The color is light scarlet, which is also in its favor. Judging from what we have seen, and from the reports of unprejudiced friends who have, partly at our request,

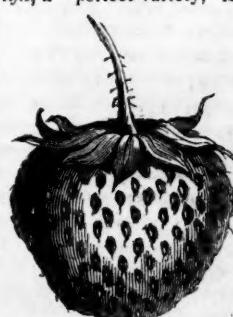


Fig. 2.

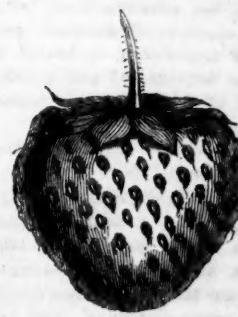


Fig. 3.

and partly on their own account, visited the original plot, there seems to be no doubt that the plants are strong and prolific, and the berries average large in size. It is much later than other varieties, and on this account it will be useful to prolong the strawberry season. Of the flavor we can not speak so confidently. The specimens we have examined have all been carried 8 miles in a wagon, and 150 miles by railroad, and not received until at least the second day after picking. They do not appear to bear this carriage as well as some other varieties, and the flavor is hardly A, No. 1. Still those who have visited the grounds, and eaten the fruit from the vines, speak well of it. The original bed is covered with a thick mass of vines and leaves, which doubtless affects the size and flavor. We shall not discourage its introduction and trial by all who can afford to do so.

Cauliflowers.

Cabbages are good, but cauliflowers are better. They are sweeter, more delicate and suited to a refined taste. Not a few persons like the flavor of cabbage well enough, but find it hard of digestion. Let all dyspeptics eschew cabbage, and take to cauliflower.

In raising this esculent for Fall and early Winter use, sow the seed the last week in April in a cold frame, or spent hot-bed. Take pains in selecting seed; for much home-grown seed is defective, owing to the excessive heat of our Summers—that raised in the milder climate of Europe is more reliable. It is said that the English prefer Dutch seed, and the Dutch prefer English; but let us make sure of *good* seed, whatever its nationality. After the plants are up, give them plenty of air to make them strong and stocky. Don't be in a hurry to hasten their growth, otherwise they will head too soon, and split into numerous sprouts, instead of forming one large, compact, tender, and brittle globe. Transplant about the first of June, two feet apart each way, setting the plants pretty deep, so as to prevent their being threshed about by the winds. The situation should be open and sunny. Keep them away from trees, fences, or buildings. Give them a rich, porous and well worked soil. Probably the very best ground is new land, well manured from the barn yard, seasoned also with a dressing of burnt sods and other vegetable refuse.

We question somewhat the practice of heaping up the earth around the stock during summer, for if the season is damp and hot, the stem is apt to decay from its over succulence. The whole surface, however, should be frequently hoed. If the Summer is quite dry, mulch the ground with a coating of long manure, and dash upon this, once a week, the wash from the sink and chamber. If the leaves droop at all, it is a sure sign that more moisture is needed at the roots. Very fair growths can be got without this trouble, but superior heads come from this management—heads fifteen inches in diameter, tender and crisp, and nearly as white as snow.

If any plants do not complete their heading before hard frosts, they may be lifted and set in earth in the cellar, where they will continue to improve in size until past mid-winter.

To cook the cauliflower well, put the heads into a dish of hot water, in which a tablespoonful of salt has been dissolved. Let them simmer slowly for an hour, then drain them in a colander; have ready a few pieces of toast to lay them on, and pour over the whole some melted butter.

Among the best sorts for early use is the *Early Paris*; for late use, the *Le Normand*.

For the American Agriculturist. Refinement Among Farmers.

[We trust the suggestions of the following communication will not be read carelessly—they should be pondered over.—ED.]

If Agriculture has ever seemed, in the eyes of the superficial, an occupation inconsistent with refinement of taste, it is because the farmer himself generally thinks he has no time for any thing of the kind. But it is a mistake; a little attention to the civilities and amenities of life, will not make him the loser of an hour in the course of the year—for he will reap a large interest for a small expenditure of time. What is so often enlarged upon, need not be repeated here, that a constant field is opened for observation and experiment in the culture of the land; but it is to be desired that among so many intelligent farmers as abound in our country, there were more who cultivated the refinements of life, and made their calling less repulsive to observers. There are farmers who can blend profitable labor with refinement, not mere city conventional forms, which are oftentimes burdensome, and from which it is sometimes delightful to be freed amid the liberty of the country, but those little courtesies which make home attractive. There are very many farmers—men too who are kind husbands in the main, who would like, when possible, to aid their wives in their most arduous business—who yet think it effeminate, or wasteful of time, or an evidence of pride, to put on for their families, the appearance of neatness and cleanliness, when assembled around the table or the hearth. They wash their faces and hands, but the copious streams which their honest occupation has caused to moisten their garments, soiled as they must be by their business, need a little attention, and it is not necessary that they should render the meal distasteful, by appearing coatless, collarless, or cravatless—or bring with them the perfume of the stable on their shoes.

Only let the farmer express the wish, and his tidy wife will have all that is convenient in readiness, with a clean pair of slippers kept close at hand, so that they may be slipped on in a minute. Let his men know his example must be followed, and the farmer's table will be very different from what we often see it. The gathering of the family around the board, however frugal that may be, may either be a scene of great discomfort, or it may be a sweet blending of the finer feelings of our nature. Hurriedly, without any regard to courtesy, the meal may be dispatched, little talked of but business, and the rough and uncouth appearance of the male part of the family rendering the repast almost repugnant to the neater members of it. Another, who knows how to arrange his business so as to feel calm and quiet at his table—takes a minute or two to adjust his dress, and by his cleanliness shows he respects the feelings of his family, and in the love of order thus expressed, finds his reward in a well-ordered dinner by those who will not be behind the husband or father in neatness.

They have paid respect to each other, and are prepared to make the meal more than a feeding—it is a social pleasure. Such farmers we have known, and they were prosperous, losing no time by attention to these little courtesies; but they were systematic, and received the summons to their meals a few minutes before the time, and they promptly attended to it. "Ridiculous," says some readers, perhaps, "it is only pride. Can not my wife love me, when I dine in my soiled shirt sleeves and bare throat, if I get this soiling in working for her?" Yes, my friend; but remember she toils too, perhaps harder, for her strength,

than her husband does—and after her late labors are over, she sews for him and the children; and yet she may retain a portion of her early love; but depend upon it, she would value her husband more, if he took a little pains to make himself more agreeable. Now, we do not suppose this farmer to have a slatternly spouse, *she* deserves nothing but to sit opposite a coatless, collarless clown. This harsh term is not designed for all who are negligent as we have described, because, without doubt, there are farmers of delicate feelings, and sensitive minds who only need to have attention called to the subject. But the young woman of whom we are speaking, we think of as nice and tidy. She was won by a spruce young man, who, when he went to see her, had his coat brushed, his collar spotless, and his shoes faultless, and in her simplicity, she thought he would always seem as he did then. Perhaps she had seen her father and brothers look as unwashed, and she may have sooner become reconciled, but she felt a pang of disappointment the first time he who hitherto paid her the respect of regarding personal appearance, shewed her that these delicate attentions were ended. It has been our lot to see a young bride taken from a home of refinement, subjected to this trial. She thought in sharing the toil of her chosen one, he would share her feelings, and pay deference to her tastes. But the too prevalent notions that work and refinement of manners are incompatible, has made her a domestic slave and she has yielded to her fate. She, of course, loses in such companionship.

"As the husband is, the wife is; thou art mated to a clown, And the grossness of his nature, will have weight to drag thee down."

It is no trifle to study the tastes of our families; by so doing we are repaid sevenfold. By the one course we have described, farming life is rendered repulsive to many, particularly to females, who are often more ready to accept the offers of those who are engaged in other business. By the other course, agriculture takes its right position as a high, refined, and independent pursuit, capable of calling forth man's best energies, rendering domestic life a scene of comfort and happiness.

MARTHA.

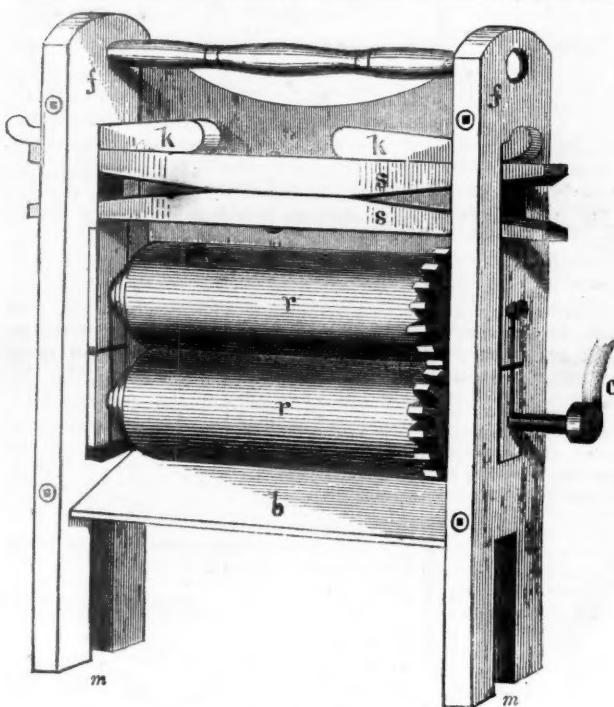
A Note from the Doctor.

MR. EDITOR.—I did not intend to say anything more about *overwork*, but I find in "the Professor's Story" (which is written you know by an eminent physician) a passage so much to the point concerning it, that I can not refrain from quoting it. So here it is.

"An overworked woman is always a sad sight—sadder a great deal than an overworked man, because she is so much more fertile in capacities of suffering than a man. She has so many varieties of headache—sometimes as if Jael were driving the nail that killed Sisera into her temples—sometimes letting her work with half her brain while the other half throbs as if it would go to pieces—sometimes tightening round the brows as if her cap band were Luke's iron crown—and then her neuralgias, and her back-aches, and her fits of depression, in which she thinks she is nothing, and less than nothing, and those paroxysms which men speak slightly of as hysterical—convulsions, that is all, only not commonly fatal ones—so many trials which belong to her fine and mobile structure, that she is always entitled to pity, when she is placed in conditions which develop her nervous tendencies."

I shall let this quotation stand by itself, only commanding it to the thoughtful consideration of your readers.

P. H. E.



Machine for Wringing Clothes.

Here is a first-rate implement, and no mistake about it. A month ago Mr. Lyman sent us from Yankeedom a small apparatus, 14 inches high, 12 inches wide, and 5 inches thick, and wished us to set it upon the edge of our Metropolitan wash-tub, or any other wash-tub, and try it for wringing out clothes. It did not strike us very favorably at first, and we were disposed to partly attribute the good story he told of it, to his usual enthusiasm on getting hold of something new. However, as it cost us nothing, not even the express charges, (which is more than we can say of many a useless gim-crack sent to us), we could do no less than take it home for a trial. Well, we like it; our better half likes it; and—to say a big thing in its praise—our "help" liked it on the first trial, though she belongs to a class constitutionally opposed to any new-fangled machines about the kitchen. Next to the sewing machine we consider it the greatest woman's-labor-strength-and-health-saving-implement we have seen. And further, it is a decided economizer in the wearing out of garments. Every one is aware that in the usual method of wringing out clothes, the twisting process stretches and breaks the fibers materially, and woefully strains and tires the hands, arms, and shoulders. All this is saved in this new machine, for the garments are simply passed rapidly between two soft, elastic india-rubber rollers held together by springs, and they come out quite as dry as they can be wrung by hand. They are not twisted at all, but simply pressed. The operation is equivalent to pressing the pieces between the soft hands with sufficient force to remove the water, and of course there is no stretching or tearing of the fibers as in the usual process of wringing. As an experiment, we showed the wash-woman how to work it, by passing two pieces through. She then took hold and passed through a miscellaneous assortment of 3 dozen garments, of various sizes, from a baby's stocking to a woman's dress. The articles dropped into a basket, ready to hang out. The time required at the first trial was 4½ minutes. The garments were then thrown back into the water, and she wrung (or

pressed) them again in a trifle less than 3 minutes, and with less weariness than would be required to wring out a single sheet.

After this, why should we not be enthusiastic, (in behalf of our fair readers,) over this new implement? One thing more would make our satisfaction complete, and that would be to have the new machine sold at so low a price that every woman could purchase one immediately. We have talked the matter over with the manufacturer, and tried to figure out a lower price, but he assures us that they can not be got up so as to be retailed for less than \$8, if well made. As an item in the expense he informs us that the india-rubber for the rollers alone

costs \$3, as it must do from the quantity required. But even at \$8 the machine is a profitable one, on account of the saving in wear and tear of fabrics, to say nothing of the saving of labor.

DESCRIPTION.—The machine consists of an upright frame, *f*, *f*, in which two rollers *r*, *r*, are set. A crank, *c*, on the axle of the lower roller enables the operator to turn them, they being connected by cog wheels at one end. The cogs are long so as to still fit into each other when the rollers are pressed apart by large garments. The pinions or ends of the rollers move up and down in slots



in the frame. The body of the rollers is made of a thick layer of vulcanized india-rubber, and the cog wheels are of galvanized iron to prevent rusting the clothes. The amount of pressure given by the rollers is regulated by stiff wooden springs *s*, *s*, above them; the ends of the lower spring rest upon the side pieces into which the axles of the rollers are inserted. By moving the wooden keys *k*, *k*, the springs *s*, *s*, are made to act more or less forcibly upon the rollers. The lower board, *b*, is inclined so as to carry the water back into the tub.

To use the wringer the mortices *m*, *m*, are slipped down upon the edge of the wash tub as shown at Fig. 2; the end of a piece of clothing is presented to the rollers, the crank turned, and the cloth is drawn through, and falls upon the

other side ready to hang out to dry. The water is squeezed out and falls back into the tub. By loosening the keys, the springs and rubber yield sufficiently to admit the passage of a large garment, while the elastic rubber operates upon the smallest article. If desired, the garments can be made as dry as pressure can make them by running them through a second or third time with the keys pressed in. The long lever (crank) makes it easy to use a great pressure, while the elasticity of the rubber and springs prevents crushing the most fragile button.

We have thus spoken strongly in favor of this valuable implement, against which we were at first prejudiced, because we think we are doing a favor to our readers. All the return we ask of the manufacturer is that he get up the machines rapidly, make them in the best manner, and sell them to our readers at the lowest possible price. If he don't do this we shall pitch into him, if we can't into his machines.

Hints on Cooking, etc.

The following three were contributed to the *Agriculturist* by A. M. P.

CHEAP SPONGE CAKES.—Two eggs, 1 tea cup flour, 1 cup sugar, 1 large spoonful sweet milk, ½ spoonful soda, 1 tea spoonful cream tartar, a little salt, grated rind of one lemon, 1 tea spoonful of butter. Bake fifteen minutes.

BOILED SUET PUDDING.—One cup of suet finely chopped, 1 of raisins chopped, 1 of milk, 1 of molasses, and a little salt. Stir in wheat flour until it is of the consistency of stirred cake. Boil three hours; serve with sweet cream.

OMELETTE.—Four eggs, 1 tea spoonful of butter cut in bits, 1 large spoonful milk or cream, salt and pepper to taste. Put a piece of butter, half the size of an egg, in the pan—which should not be too large, to allow it to spread too thin—let it melt, break in one slice of bread, crumbled fine, and two large spoonfuls of cream. Beat the eggs well, stir them in briskly for a moment, let it cook about five minutes, then fold it over, and turn out. This, with ham, makes a nice dish for the breakfast table.

YEAST.—Mrs. H. Jessup, Chautauque Co., N. Y., recommends to the readers of the *Agriculturist* her method of preparing yeast, which is as follows: To any quantity of water desired, add sufficient hops to make it very strong, and let it steep slowly two or three hours. Then boil it a few minutes, strain out the hops, put the liquor back in the kettle, let it boil moderately, and add flour until a stiff batter is formed. When thoroughly scalded, put it in a jar to cool, and while a little warm, add yeast to ferment it. When well fermented, add to two quarts of the yeast, a half tea cup of salt. Keep it in a cool place. A tablespoon twice full will make sponge for a half dozen loaves of bread. Yeast made in this way will not sour.

FLOUR PUDDING.—Contributed by M. Smith. Mix 4 eggs with 4 cups of sweet milk and a table spoonful of butter, and stir in 2 cups of flour. Bake it ¾ of an hour in a quick oven, and serve with sauce of butter and sugar well mixed, with a little wine if desired.

TOMATO FIGS.—Contributed by H. Wade, Floyd Co., Iowa. Place tomatoes in boiling water and leave them until the skins burst. Drain off the water, and add sugar enough to cover them, when it is melted. Boil slowly for an hour, skim off the tomatoes carefully, and drain off all the syrup; then pack them in sugar. When dry they closely resemble genuine figs.



The Editor with his Young Readers.

MISCHIEVOUS TOM.

Thomas G. was naturally a pleasant, sprightly lad, full of frolic, and seldom at rest. He must be busy, either at work, innocent play, or mischief. His mother, a good natured but rather careless woman, often found her patience severely tried by "Tom," as she called him, for in his search after amusement, he was, as she declared, "into every thing." When he had trapped all the rats in the cellar, and the mice in the closet, he would fix snares for the chickens in the barn yard, or inveigle the cat into a bag, and amuse himself by watching her struggles. He knew the contents of all his mother's closets, trunks, and bureaus, better than she did sometimes, for when she wanted cloth for patches, or strings for tying bundles, she often found Tom had used the patches to make sails for his boat, or a tail for his kite, and the strings had been taken to harness his imaginary horses. If his mother could have taken more time to keep him innocently employed, or had corrected him when he was guilty of mischief, he would have been less troublesome; but she was a widow, obliged to work hard for a livelihood, and had little leisure to look after him. He was her only child, too, and she could not bear to punish him even when he deserved it, so he did about as he pleased. Fortunately his home was in the country, with no neighbors very near, and he did not have bad boys as companions; had this been the case, he would soon have been ruined.

But although he was thus neglected, he often found that mischief brings its own troubles. He was once severely burned while playing with the lamp, when left alone a few minutes. The burning fluid was spilled and took fire upon his clothes, and he narrowly escaped losing his life. Once, too, he fell into the well, while throwing in a handful of frogs he had caught, but as it was not very deep, he was only badly bruised, soundly dazed, and greatly frightened.

His last scrape is shown in the picture above, which we found in Merry's Museum. He was invited by his uncle, who lived in a neighboring town, to spend a few weeks at his place, with which, as you may suppose, he was greatly delighted. His uncle was wealthy, and had no children; and it was his intention, if he liked Tom, to take him for his own, and educate him. If Tom had known this, perhaps he would have taken pains to keep out of mischief; but, as usual, he at once commenced to explore the place in search of adventures. First he roamed through the garden, and helped himself to such fruit and flowers as he fancied, but the gardener spied him, and soon drove him out. Just beyond the garden gate the bees were kept. Tom had never seen a hive of them before,

and was much interested at first in watching their motions as they buzzed around the hive, or flew away to gather honey. He soon became tired of this, and, just for sport, thrust a stick into one of the hives. Poor fellow, in an instant the enraged bees poured out and attacked him, stinging him as he ran, until he roared with pain. He was so badly stung that he was confined to his bed for more than a week. His uncle, who was a kind hearted man, took occasion, as he recovered, to talk with him about his mischievous propensities, and Tom was quite ready to believe that such sport cost more than it was worth, and since then, when he has been tempted to do mischief, he has thought of the stings, and restrained himself, and he is now in a fair way to grow up a good and useful man.

Perhaps there may be boys or girls among our young friends who are ready to seek enjoyment from what they know is not exactly right, when they think it can be done without the fear of punishment. Wrong always has a sting—if not like that of the bee to pierce and poison the body, it will yet rankle like a poison in the mind, and destroy happiness. It will be much easier and better for them to learn from the experience of Tom, and others like him, that the *right way* is the *best way*, than to suffer the penalties themselves.

A STARTLING REPORT.

A clerical friend relates the following which happened to himself a few years since. He was just passing from boyhood to manhood, and had lately appeared in his first "long tailed" coat. One Fourth of July, dressed in his best, he passed part of the day with a party of young ladies, and, for his own amusement, he purchased a quantity of torpedoes. Some of you may not have seen these. They are small bits of paper containing gravel, and a substance called fulminate. When one is thrown forcibly upon the floor, or against a hard surface, it explodes with a noise nearly as loud as a fire cracker. Our friend had much sport in throwing these about and making the ladies start, for which he was afterwards punished nicely, as you shall hear. At the close of the day, he had a parcel remaining, containing about one hundred torpedoes, which he left in the pocket of his long tailed coat. The next Sunday, he dressed for church, without thinking of the torpedoes, which of course he carried there with him. Taking his usual seat in the choir, he soon became interested in the singing, which he says was unusually good that morning. A piece had just been finished, the congregation were seated, and the minister was about engaging in prayer. All was hushed into perfect silence, when a tremendous report startled the congregation. Some thought a musket had been discharged, others, that the gallery was falling—only our young friend knew the truth—he had sat upon his torpedoes, and all exploded together. Fortunately no injury was done, except to his nether garments; but for a long time he always turned very red in the face, when any one asked him about torpedoes. You may be sure that after such a mishap, he always examined his pockets carefully before going to church, to see that they contained no explosive materials.

HAPPY JACK.

A correspondent writes as follows: The story in the July number of the boy who was so afflicted by the loss of his whistle, reminds me that we have in this place, Brooklyn, N. Y., a cartman who has whistled into notoriety, and a comfortable living. He is a stout, burly fellow, with a skin black and shining, and a coun-

tenance beaming with good nature. His happy face and pleasant manner have won for him the name "Happy Jack." He is very kind-hearted and a great favorite among children. You can always tell when he is coming up the street on his cart, by the peculiar, clear, ringing, chirrupy notes with which he whistles his few favorite tunes. He can perform almost anything in the whistling line, but prefers to practice but few tunes in public, probably with an eye to attracting attention, for he is as shrewd as he is good natured. As he passes through the streets, the little children call after him, and he bows, shouts, laughs, and whistles to them, until out of sight. I have seen group after group of children salute him, for they all know him, and he has a pleasant reply for all. This is his way of advertising, and Barnum or Bonner could not succeed better than he has in attracting public attention. Consequently, as he is a careful cartman, he has abundant employment, besides enjoying life more than most of his class.

NEEDED MEDICINE.

Nothing is more ridiculous than for young people to "put on airs." They are fair game for jokers. The following shows how one of this class was "taken down."

Some twenty years ago a farmer's barn in the vicinity of Worcester was struck by lightning and burned to the ground. Many of the citizens had gone to the fire, when a fop, well strapped and decked, with his cap on one side of his head, met the celebrated Dr. G—n, and accosted him in this wise :

"Can you—ah, tell me, dc—ah, how fah they have succeeded in extinguishing the conflagration of the—ah, unfortunate yeoman's barn?"

The doctor eyed the individual attentively, dropped his head as usual for a moment, and then slipping his thumb and finger into his vest pocket, took out a couple of pills and handed them to him, saying—

"Take these, sir, and go to bed, and if you do not feel better in the morning call at my office."

BEWARE OF THE SERPENT.

Can you read this picture? We have rarely seen a more expressive one. How well it represents that verse written by the wise King. "Look not upon the wine when it is red, when it giveth its color in the cup, when it moveth itself aright. At the last, it biteth like a serpent, and stingeth like an adder." That poor inebriate has already been fearfully bitten by the serpent, Alcohol. His body is enfeebled, his mind stupefied, his sense of shame gone, so that he can lie in a drunken sleep by the roadside, the sport of the thoughtless and the pity of the kind-heart-



ed. The spirit of Temperance hovering over the fountain of pure water, looks mournfully upon him as though she would gladly restore him to happiness with the cup of life she holds.

But, you may say, do such horrid looking snakes ever come out of the bottle, and attack the intemperate? Yes—in that dreadful disease called delirium tremens, caused by intemperance, the sufferer sees or imagines he sees serpents, demons, and many other horrible shapes coming to attack him. The writer once took care of a man affected in this way. His groans and screams were fear

ful, and although what he feared, was only imaginary, to him it was as terrible as the reality could be.

But why do men drink that which is followed by such horrors? Because they see no danger at first. A little wine or other pleasant drink is taken occasionally, then daily; thus habit is strengthened. The appetite increases by indulgence, and if not restrained, the serpent's bite is felt at last. Boys and girls—God made the best drink that can be furnished—it is healthful, safe, and refreshing, and nothing can quench thirst so well. If you would grow up strong, virtuous, and happy, drink water. Touch not, taste not, handle not any thing that can intoxicate.

DOG AFRAID OF NOISE.

One of our young friends is in much trouble about his favorite dog. He writes: "Whenever he hears fire-crackers, a gun, thunder, or any thing of that kind, he will run into the house and as far up stairs as he can get. When we try to get him out he is almost crazy with fear. Yesterday we shut him out of the house, and he heard a cannon, and he jumped right through a glass door and broke the sash all to pieces. He is a large Newfoundland dog, and was two years old last March. He is a very valuable watch dog except for that one thing. I don't want to dispose of him, for we are so much attached to him. If you or any of your readers can tell me how to cure him I wish you would do so."

We do not know that your dog can be taught better; he is probably too old, and you know the old adage "you can not teach an old dog new tricks." However, we should try something like this. Just before feeding him every day, explode a torpedo or fire cracker, so that he may expect something pleasant after hearing it. When he becomes accustomed to this, try him with some louder noise, as a pistol or a gun, and in time, perhaps he may not only lose his fear, but like the sound. We have seen dogs leap and frolic with pleasure at sight or hearing of firearms, from having been accustomed to hunt with their masters, and to share the spoils of the chase. Perhaps if the cowardly dog were associated for a while with a courageous one who could stand fire, he would be shamed out of running away. Dogs as well as boys learn many things from their companions.

LANGUAGE OF FOWLS.

Mr. C. N. Bement, whose writings on poultry you have occasionally seen in the *Agriculturist* contributes the following interesting communication about the way turkeys and hens "talk."

Turkeys have a language of their own, well understood by themselves. It may not be Greek, or Hebrew, or Dutch, or Esquimaux, but it answers their purpose; and by it, young and old will learn to communicate their thoughts to each other in far less time than small children in an infant school will learn the elements of our vernacular dialect. By a particular nod—to them, it is a word—or whistle, or sound, uttered by one of the flock, should there be fifty of them, all will stop feeding, and look up to learn what is wanted. This will be invariably done if the old cock or one of the older hens should discover a hawk a mile distant in the air. How do the turkeys know the character of those Goths and Vandals of the feathered races, before they have experienced their ravages? They apparently know it from instinct.

My turkeys are mostly fed on Indian corn. One morning the man who has charge of the poultry, took some corn which had been wet and left in a barrel and become a little moldy, and commenced feeding by scattering it on the ground for the turkeys, as he had frequently done before. All as usual seemed delighted with their fare. There was great scrambling among them, old and young, apparently to see who should get the most. All at once the old cock did not like the taste of it. He suddenly suspended operations, first turning his head half way round to take a more careful view of it with his right eye, then the other way to scrutinize the suspected grain with the left eye. This was repeated several times with as much of an air as the school boy will look through a piece of smoked glass to observe the sun in an eclipse. Quickly he became satisfied that something was wrong about the corn; this mold might be poison from the apothecary shop for aught he knew; it might have been prepared to kill the villainous rats, and by accident given to the honest turkeys—at any rate, he deemed caution necessary, and resolved to give the alarm. He did so by one of his peculiar sounds and nods, which have not been translated into the English language, holding up his head and looking as wise as the bronze Statue of Confucius. Anon the old lady turkeys stopped eating, held up their heads, and repeated the same signal of danger. All then, old and young, stopped eating, and held up their heads apparently asking what was the matter. The old cock now again turned his head this way and that way, first to inspect the corn with one eye, and then with the other, for them to see.

The rest all did the same with much accuracy, and in five minutes they all left without eating another kernel.

Hens are like folks. They look, act, and talk like folks—that is, like a great many folks we all know. There's one now with precisely two feathers in her tail, by actual inventory, and the two sticking directly up like a couple of oars in a fishing boat. She's a fussy little body, and goes clucking around with one chicken about the size of a wren, quite unconscious of the figure she cuts, and the ridicule she provokes wherever she goes. Who don't know some body "as like her as two peas?" She's everywhere, in every thing; has "a word in season," and out, and for that the "outs" have it. Nothing going on, that she isn't there, and hasn't something to say, with her short steps but a great many of them. Only glance at that wonderful chicken of hers and she's all of a clutter; ruffles her feathers, and looks—so she thinks—very formidable. She is too tough to eat or she would have been guillotined long ago.

The great cry when an egg is laid, is as good as an announcement in the London *Times*. The alarm when a wing, somewhat broad, sweeps over the barn yard, is as significant as the old Saxon Tocsin. The call of something "found," is quite as intelligible as the town crier with his bell. The defiant voice of the cock is a challenge in honest vernacular, and the triumphant crow is a "hurrah" in plain English. The mother's incessant "cluck," "cluck," with her family, is veritable "babble," while her tones gathering the callow wanderers together, are as full of love as an old ballad. And the notes of the chickens too! There is not a rural sound softer and sweeter than the home notes of the little creatures when nestled at night beneath the mother's brooding wing.

NEW PROBLEMS.

No. 21—*Original Rebus*, properly read, gives an old adage.



No. 22—*Word Rebus*, by T. M. Hequembourg. The Gr 8 B ing M T aim an put::

No. 23—*Enigma*, contributed by a subscriber, who does not know the answer—neither do we—perhaps some of you can find it out.

It is as high as all the stars,
No well was ever sunk so low;
It is in age five thousand years,
But was not born an hour ago.

It is as wet as water is,
No red-hot iron e'er was drier;
As dark as night, as cold as ice,
Shines like the sun, and burns like fire.

No soul, nor body to consume,
No fox more cunning, dunce more dull;
'Tis not on earth, 'tis in this room,
Hard as a stone, and soft as wool.

'Tis of no color, but of snow,
Outside and inside black as ink;
All red, all yellow, green and blue—
This moment you upon it think.

In every noise, this strikes your ear,
'Twill soon expire, 'twil ne'er decay
Does always in the light appear,
And yet was never seen by day.

Than the whole earth it larger is,
Than a small pin's point 'tis less,
I'll tell you ten times what it is,
Yet after all, you shall not guess.

'Tis in your mouth, 'twas never nigh,
Where'er you look, you see it still;
'Twill make you laugh, 'twil make you cry,
You feel it plain, touch what you will.

ANSWERS TO PROBLEMS.

No. 18—*Original Rebus*. The solution is: th in k twice before u's peck on ce—or, Think twice before you speak once. Read correctly by F. E. Pearce, B. S. Payson and sister, S. Henry Hickok, T. M. Hequembourg, Isabella C. Miller, E. D. Farr, Oppy Dondow, Otway B. McClure.

No. 19—*Puzzling Bill*—Taking the "cockneyism" out, it reads:

Alf. Hall	To A. Howell	Dr.
To a horse half a day.....	5s. 6d.	
" getting him home.....	2s. 0	
	7s. 6d.	

Answered correctly by G. C. Dunlap, J. Oscar Teel

(let us hear from you again,) F. E. Pearce, "Edward," Wm. Joyce, John Yale, N. H. Nebaugh, B. K. Northrup, S. Henry Ward, B. F. Wallis, Giles E. Stillwell, D. F. Balph, T. Rogers, Otway B. McClure, Wm. Macy.

No. 20—*Arithmetical Problem*.—Answer, 23 hours 5½ minutes. Solved by J. Oscar Teel, Edward Follett, N. H. Nebaugh, B. K. Northrup, F. F. Wallis (we have never seen such a *lusus naturae* as you describe), Charles Farquhar, W. T. Adams, Harrison Frizelle.



Into which are thrown all sorts of paragraphs—such as NOTES and REPLIES to CORRESPONDENTS, with Useful or interesting Extracts from their Letters, &c., &c.—to be drawn from as we have room left here.

Errata.—In describing the orchid, on page 177, June No., *Lycaste* should have been printed *Lycasté*, and the description credited to Dr. James Knight instead of Andrew Knight, as there stated.

Disease among Cows.—Wm. B. Cary, Essex Co., N. J., writes as follows: "A number of cows in this vicinity have lately been taken down with great pain just after calving, and died in a short time. The disease has baffled the skill of the cow doctors about here. I made an examination of the last one lost, and found the heart considerably enlarged and slightly discolored (yellow), the lungs the same, the liver somewhat swollen, but natural color, the fat about the kidneys discolored a little. When she was first opened, the heart, etc., were lying in a pool of blood, from where I don't know. The external symptoms are: the animal is unable to stand—groans with much pain and is very uneasy, eyes lose their brilliancy, horns cold, the body very much swollen with wind. The calves seem to do well. Two valuable cows have been lost, and the difficulty appears to be spreading. Any information about this disease will be gratefully received by this community."

Raising Locust Trees.—W. Brown, Cortlandt Co., N. Y.—The Yellow Locust makes very valuable timber for fencing and other purposes. It is of rapid growth, and when once interspersed among other trees, gradually gains the ascendancy. If practicable to procure small trees or roots, set them out somewhat scattering, and they will soon throw up shoots from the root and multiply rapidly. Seed may also be gathered from the trees, or obtained at seed stores, and sown in the Fall, in a spot especially devoted to the purpose. The small trees can be transplanted therefrom as desired. The more such a piece is dug over in taking up trees, the more they will multiply, as nearly every mutilated root left in the ground will throw up one or more shoots.

Lye for Trees.—James Jenkins, Hancock Co., Ill., writes as follows: "Last Spring after making soap, I took the lye left in the kettle after taking off the soap, and washed the bodies of three apple trees, and liking the effects, this Spring I washed fifteen more. It causes the old bark to scale off, and gives the trees a thrifty appearance. It kills all small sprouts that may be on the trunk of trees or about the roots, and kills all grass upon which it falls. It will do no harm to use on small trees, without first making it very weak."

Protecting Trees from Sheep.—J. C. Dodge. There is little danger of trees being injured by sheep, unless the stocks are very young, or the pasture so scarce that hunger compels them to browse. They can be protected by setting stakes around them. This is preferable to boxing, which excludes light and air.

Hop Tree.—J. J. Hawthorne, Dodge Co., Nebraska. Seeds of these were sent out by parties who supposed they were distributing a good article. They will not all vegetate, even with careful culture. The tree, or shrub, (*Ptelea trifoliata*) is rather ornamental, but for hops, the common vine is every way preferable.

Budding Oranges and Lemons.—C. Hoffman, Dauphin Co., Pa. June and July are the proper months for budding the orange and lemon. They would probably bear, after a while, without budding, but this process hastens their maturity, and keeps them of a dwarf habit.

Prolific Gooseberry Bush.—A. Wiley Jr., Bergen Co., N. J., left at our office (July 6th) a branch from a gooseberry bush well loaded with fruit. It was 16

inches long, and spread about the same distance, and contained, by count, 146 gooseberries, weighing 1½ lbs. entirely free from mildew. In size they varied from ½ to 1 inch in diameter, were of a light color and pleasant flavor. We regret Mr. W. did not know the name of the sort, as a variety so free from mildew should be more extensively cultivated. The branch brought in, was about one-sixth of the growing plant.

Improved Currents.—A number of samples of different varieties sent to our office recently, attest the improvement made in this fruit within a few years. The finest sample received came from Geo. Seymour & Co.—a very large branch of the White Grape variety crowded with thick clusters, the fruit so transparent as to show every seed; flavor very excellent; a promising variety. From the same source, a branch of the cherry currant, some of the berries over 1½ inches in circumference; the branch perfectly loaded with clusters; flavor too acid for our liking. From Parsons & Co., good specimens of the Versatile, not quite so large as the cherry, but much better flavor.

Standing Cypress, (*Cantua coronopifolia*).—R. G. Blanton, Hays Co., Texas. The red flower forwarded to this office corresponds with the botanical description given of the plant named above. It is very attractive, and would be a desirable addition to the flower border. We are not aware that it has been brought under cultivation. We shall be pleased to receive a supply of seed in their season.

Benefits of Mulching.—J. D., writes that he finds much advantage in mulching the ground around peas, cabbages, cauliflower, tomatoes and many other garden vegetables, particularly when drought prevails. We prefer this treatment to artificial watering of plants, except where very long continued absence of rain makes it absolutely necessary. Every one must have noticed that the surface of the ground covered by a stone, a board, or even a layer of straw, is almost invariably damp, free evaporation of the water rising from the deeper soil, having been prevented. Give the ground to be mulched a thorough hoeing to clear it of weeds and facilitate the ascent of moisture, and apply an inch or two of loose straw, hay, sawdust, or other light material that will not exclude air.

Chinese Sugar Cane and Imphee.—J. W. Deupree, Davis Co., Iowa. The Chinese is the taller plant, and has black seeds, while the Imphee has light colored seeds, very much resembling broom corn. The joints of the Imphee are also closer than the Chinese cane. An attempt was made to cultivate the Imphee, but the seed brought here was not pure. We doubt whether it will prove valuable; our own limited experimenting with it was not satisfactory, and latterly we have heard little of it.

New-Jersey Lands.—“Subscriber,” Hamilton Co., O. The extensively advertised tracts of land in New-Jersey, which yourself and many others write to inquire about, offer no inducements to settlers, especially not to those who can do far better in your rich western territory. Several parties from New-England, who, in behalf of themselves and others, went to spy out the land, have called on us on their return, but they brought no clusters of grapes, and don’t believe any one else will bring any. They think the advertisers need a particular blowing up—and perhaps they will get it. Of the Tennessee lands you inquire about, we know next to nothing.

Superior Milk Cows.—Fleming Hodges, Chickasaw Co., Miss., writes that after careful selection for eighteen years, his milk cows are brought up to the point of yielding each from 20 to 30 quarts per day. His first stock was obtained in Virginia; the breed is not named, but from the description they appear to be grade Devons. No cow has been retained for breeding which did not yield a large supply of rich milk. We suppose, of course, that care was taken to have the breeding males also of a good milking stock. As might be expected, Mr. H.’s cows are in demand in his neighborhood. Similar management will secure the same results in any place.

Broad Tail African Sheep.—We recently saw a buck and two ewes of the above breed in the yard of the Rev. Henry H. Garnet, 52 Laurens-st., New-York, which had just arrived from the Cape of Good Hope. They each have a tail which we should judge would weigh some six pounds—a rare delicacy for the gourmand, we are told. The buck is a pure white, one ewe has a touch of black, and the other of bay or buff. This breed is Smyrna and other parts of Syria, where they abound, have all the varieties of colors, “ring streaked and speckled,” like those of Laban more than 3000 years ago. Specimens similar to the above were introduced into Pennsylvania during the last century, and the carcasses of their descendants were in great demand in the Philadelphia market till within a few years. Some

of our farmers might find it profitable to try a cross of the above on some of our native sheep, as we understand they are for sale at half the cost of importing, say \$30 to \$40 each. The wool is mostly very fine and soft, with an intermixture of fine hairs.

The Methodist.—The advertisement of this new journal appears in our advertising columns. We have read the first two numbers, and they indicate that this will be a family paper of the very highest order. It will be worth while for those not prepared to subscribe at once, to at least send for a specimen copy or two, which will be freely forwarded by the publisher.

Some Good Schools are announced in our advertising columns—that of Fort Edward which we have already taken occasion to speak of in the highest terms from our personal knowledge of the Principal, an old college classmate; and the new school just being started by Prof. Hopkins who proposes in addition to the usual routine of study, to give his pupils a practical as well as theoretical knowledge of horticulture, for which he is well qualified; and the Granville Female Academy, Logan Co., Ohio.

Peale’s Court of Death.—This admirable painting by our countryman, Rembrandt Peale, is one of the most expressive pictures ever executed. The all conquering monarch, Death, is represented upon a throne, and upon his right hand and left are witnessed the deeds of his swift messengers, war, famine, pestilence, pleasure, intemperance, vice, etc. In another part of the painting is shown the triumph of Christian faith over the terrors of Death. As the original painting can be seen by but few, we very cheerfully commend the enterprise of Mr. G. Q. Colton, who has undertaken the work of furnishing special and accurate lithograph copies of large size for the small price of one dollar. In this enterprise he has adopted the plan pursued by the publisher of the *Agriculturist*, viz.: to furnish a good thing at the least possible price, and depend upon an immense circulation for pecuniary reward. The Court of Death will make an appropriate parlor ornament, and the lesson its constant presence before a family will inculcate, will have a valuable moral tendency.

Cook’s Portable Sugar Evaporator.—We have already described this implement, and commended its use for making Sorghum sugar, and maple sugar also. So far as we can judge from what we have seen of it in operation, it appears to be the best apparatus for sugar making yet provided. We have before us several samples of beautiful well crystallized sugar made with Cook’s evaporator, by O. N. Brainard, of Marion, Iowa, and others. These are strong evidences of the utility of the apparatus.

Ellery’s India Rubber Paint.—We have given this a pretty thorough trial, having applied it to the roofs of our dwelling and an out-house, last Autumn, where it has been subjected to Winter and Spring exposure on a surface nearly flat. It stands the test well, and we shall now use it on a new barn roof. The experienced painters who applied it, and who were previously prejudiced against this and other patent compounds, speak of it in high terms, and they, with others who have examined it, are ready to recommend it. We have also examined the specifications of the patent, and the combination of materials appears to be made on scientific principles. It is essentially composed of oil and any desired coloring matter, in which is a considerable admixture of India rubber, gutta percha, and gum shellac. These substances render it elastic, and water shedding. The elasticity is a very desirable quality. The paint is scarcely as expensive as the common oil paints.

From the *Christian Advocate and Journal*.

A New Invention.

We notice with pleasure the progress of useful inventions, and especially of such as tend to relieve the constant toil of every day life, and to bring comforts more and more within reach of the masses. In this spirit we have spoken of sewing machines. We have endeavored to examine and recommend in these columns those which seemed to us best adapted for general use, and for becoming the docile and active family servant. We are pleased now to be able to say, from examination and careful tests, that a still farther advance has been made, which lessens the price so as to bring a good article within reach of many who have as yet been unable to procure them; and in speaking of this machine we must say that we have thought until now, if any one thing was settled about sewing machines, it was that a good one must work with two threads. The defects in all the single thread machines hitherto tried have been such as to preclude them from being considered really useful; and we had become fully convinced that the only reliable inventions of this kind for use were one or other of the well known

two-thread machines, which have been heretofore spoken of in this paper, although they are from necessity more complicated and expensive than a machine using but one thread.

Our Patent Office reports show that no branch of mechanical skill has been more pursued by inventive genius of late years than that of simplifying and cheapening sewing machines, which has resulted in producing a machine remarkable for its simplicity, which makes a good strong seam, without liability to rip, even when cut into small pieces, by using only one thread direct from the spool. It was not easy to convince us that one thread would produce a seam fit for general use and of reliable strength; but experience has proved it to be so. This machine has been tested in the past two years by private families and by manufacturers. After many experiments with other machines, this one has been adopted by the large hosiery manufacturers of Philadelphia, in whose work a peculiarly firm and elastic seam is required. In our own city a prominent manufacturer of fine muslin and cambric goods, who a year ago was a firm advocate of the shuttle machines, has now discarded their use altogether, and adopted this.

For family sewing in all its varieties, the work of this simple machine is found perfectly strong and reliable; and its hemming is done on the right side, and to any width, and is neat and accurate beyond comparison. Felling also is readily performed by it, and we can not see any requisite for family purposes which it can not be made to meet as readily as any sewing machine in use. It is simple and easy to work, can not be run in the wrong direction, nor is there the slightest difficulty in changing the needle; it is not liable to get out of order, and combines cheapness with its other merits, being sold at thirty dollars.

While, therefore, we abate none of the well-deserved praises we have given to the others, we must in justice express our confidence in the merits of the Wilcox & Gibbs Sewing Machine. We consider that a great desideratum has been supplied by it in proving beyond doubt that two threads are not, as was supposed, necessary to a good instrument, and we recommend all who desire to consult economy of time, labor, and money, to go and see it for themselves, and give it a fair examination without prejudice.

Business Notices.

• Sixty Cents a Line of Space.

ITALIAN BEES.

Pure Queens of this race are now ready for delivery, impregnated by pure Italian drones of which some twenty thousand are flying about the hives. No common drones are allowed in or near the grounds, and my neighbors have kindly allowed me to remove their common bees to a locality distant two miles from my Italians. For terms and other information apply for Circular to

S. B. PARSONS, Flushing, N. Y.

GROVER & BAKER’S

CELEBRATED NOISELESS

FAMILY SEWING MACHINES.

No. 495 Broadway, New-York; No. 18 Summer st., Boston; No. 730 Chestnut st., Philadelphia; No. 181 Baltimore st., Baltimore; No. 58 West Fourth st., Cincinnati. * * * For our own family use we became fully satisfied that Grover & Baker’s is the best, and we accordingly purchased it.”—*American Agriculturist*.

• SEND FOR A CIRCULAR.

WHEELER & WILSON’S

SEWING MACHINES.

“The best in use.”—*American Agriculturist*, 1860.
Office 505 Broadway, New-York.

SEND FOR A CIRCULAR.

SANFORD’S HEATERS, Portable or set in Brick,

Are pronounced by the most competent judges to be the best, giving the largest amount of heat, with a small quantity of fuel—owing to their being so constructed as to burn the gases and smoke, and with the largest radiating surface so arranged as to warm the air rapidly to a soft summer heat.

Eight sizes, adapted to warming only one or two rooms, or a whole house, churches, academies, public halls, &c. &c.
THEY ALWAYS PLEASE.

THE NEW AIR-TIGHT CHALLENGE RANGE
now ready.

Send for testimonials (free) to

SANFORD, TRUSLOW & CO., Manufacturers,
239 Water-street, New-York.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
NEW YORK, Thursday Evening, July 19, 1860.

The advices from Europe of unfavorable weather for crops, encouraged buyers early in the month to purchase Breadstuffs freely, and prices improved. An advance in rates of freight checked export, and sellers offered their supplies rather eagerly, which tended to depress prices. During the past week, transactions have been restricted, the demand from the home trade and from shippers being moderate. The number of suitable vessels in port is small, and high freights are demanded; latest accounts from England are indefinite, and buyers do not offer freely, except at unsatisfactory rates. Yet, as there are many orders to be filled, leading receivers are not over anxious to anticipate the regular wants of purchasers. Stocks in first hands have been reduced, and current receipts are not unusually heavy. Many pretty well informed merchants predict a diminution in arrivals from the interior, which will favorably affect prices. The first new flour, of choice family extra brand, was received from the Reservoir Mills, near Baltimore, on June 30th. A portion of it was sold on the 2nd inst. at \$8.50 per bbl. A sample of a small lot of fine quality new White Maryland Wheat was received on the same date, and sold at \$1.70 per bushel. We understand that some of the same kind of Wheat sold in Philadelphia on the 29th ult., for \$2 per bushel.... Accounts of crop prospects from various parts of the country are most encouraging. Our latest exchanges, especially those from northern Illinois, southern Wisconsin, and eastern Iowa, agree that, so far as heard, no damage has resulted to the Wheat and other crops from the recent storms. In some cases, the Wheat has been thrown down, but not so as to seriously damage it. No signs of rust have appeared. Many of the papers state that the Wheat crop will be heavier than was a short time since anticipated, the heads having filled up better than they seemed at an earlier time to promise.... There is a very unusual absence of complaints of poor crops, in the extended correspondence of our office.... Cotton has been quite dull and heavy. It has declined 4@5c. per lb. The prospects of the new crop are very encouraging. The weather continues generally very propitious for crops on the bottom lands. On some parts of the high lands rains have also fallen, and from those neighborhoods we have fewer complaints of drought, while from other portions of the Atlantic States and Territories we hear that the plant is becoming parched from excessive heat. The critical periods of maturing and picking have yet to be passed through, during which, fine, dry weather will be of the utmost importance. The arrival of a bale of new Cotton at New Orleans on 3d inst., and subsequently in New-York, on the 14th inst., goes to corroborate what has been said of the forwardness of the crop. This is 12 days in advance of the earliest previous year (1856), and more than 3 weeks in advance of last year. As usual, this "first bale" comes from Texas; it has been classed as Middling Fair; light staple and well-ginned; it has been reported sold @15c. per lb., and was forwarded in the steamship *Parsia*, for Liverpool, July 18th. It is by some parties regarded as indicating the result of the severe drought complained of there, which has been to force the Cotton to rapid maturity at the expense of the quantity grown. Whether it is a fair criterion of the very advanced state of the crop generally, remains to be seen; and on this will depend the quantity of new Cotton to be received by 1st September.... Wool has been in moderate demand here at well supported prices.... Rice has been more sought after at higher rates.... Hay is in light supply and fair request.... The movements in other descriptions of Produce have been restricted.

CURRENT WHOLESALE PRICES.

	JUN 18.	JULY 19.
FLOUR—Superfine to Extra State	\$5.00	@ 5 20
Surfine Western.....	5 00	@ 5 10
Extra Western.....	5 15	@ 5 25
Fancy to Extra Genesee.....	5 40	@ 7 50
Super. to Extra Southern.....	5 60	@ 7 50
RYE FLOUR—Fine and Super.....	3 40	@ 4 20
CORN MEAL.....	3 40	@ 3 80
White Corn, White.....	1 10	@ 1 50
Western White.....	4 00	@ 1 525
Southern White.....	1 42½	@ 1 55
All kinds of Red.....	1 19	@ 1 35
CORN—Yellow.....	67	@ 71
White.....	70	@ 78
Mixed.....	62	@ 61
OATS—Western.....	37	@ 41½
State.....	41½	@ 42½
Southern.....	37	@ 40
RYE.....	85	@ 40
BARLEY.....	60	@ 50
White Beans.....	90	@ 1 00
HAY, in bales, per 100 lbs.....	75	@ 1 00
COTTON—Middlings, per bbl.....	11	@ 11½
RICE, per 100 lbs.....	3 75	@ 4 75
HOPS, crop of 1859 per lb.....	6	@ 12
PORK—New Mess, per bbl.....	18 25	@ 18 37
Prime, old, per bbl.....	13 62½	@ 13 75
Beef—Dressed Mess.....	4 75	@ 5 75
Hogs, Dressed corn, per lb.....	17½	@ 17 75
Lard, in White, per lb.....	11½	@ 11½
BUTTER—Western, per lb.....	9	@ 16
State, per lb.....	12	@ 19
CHEESE, per lb.....	7	@ 11
Eggs—Fresh, per dozen.....	12½	@ 13½
POULTRY—Fowls, per lb.....	12	@ 14
Geese, per pair.....	1 25	@ 1 50
Ducks, per lb.....	15	@ 18
Turkeys, per lb.....	12	@ 14
Wild Pigeons, per doz.....	75	@ 87
	1 25	@ 1 30

FEATHERS, Live Geese per lb.	41	@ 54
SEED—Clover, per lb.	8	@ 5
Timothy, per bushel.....	4 37	@ 4 50
		None selling.
		do.
SUGAR, Brown, per lb.....	6½	@ 8½
MOLASSES, New-Orleans, prl.	47	@ 50
COFFEE, Rio, per lb.....	13	@ 14½
TOBACCO—Kentucky, &c. pr lb.	3	@ 13
Seed Leaf per lb.....	5½	@ 25
Wool—Domestic fleece, per lb.	32½	@ 57½
Domestic, pulled, per lb.....	27½	@ 47½
Hemp—Und. Amer. pr ton.	125	@ 150
Dressed American, per ton.....	160	@ 200
TALLOW, per lb.....	9½	@ 12
OIL CAKE, portion.....	29 50	@ 36 00
APPLES, New, per bushel.....	2 00	@ 3 75
PEACHES, South'n, per bushel.....	3 50	@ 6 00
HUCKLEBERRIES, per bushel.....	3 00	@ 4 00
BLACKBERRIES, per bushel.....	3 00	@ 4 00
WATERMELONS, per 100.....	12 00	@ 18 00
Dried Apples, Per bbl.....	4½	@ 6
Dried Cherries, bushel, per bushel.....	6	@ 14
Dried Cherries, pitted, per lb.....	20	@ 20
POTATOES—N. Mercers, per bbl.....	2 50	@ 3 00
New-Junes, per bbl.....	1 75	@ 2 00
New Dyckman, per bbl.....	1 87	@ 2 00
ONIONS, New Red, per bbl.....	5 50	@ 2 00
TURNIPS, New, per 100 bunches.....	3 00	@ 2 50
CABBAGES, per 100.....	5 00	@ 6 00
CUCUMBERS, p. bbl.....	75	@ 1 00
SQUASHES, per bbl.....	2 00	@ 2 25
GREEN PEAS, per bbl.....	2 00	@ 2 50
GREEN CORN, per 100.....	1 50	@ 2 00
BEETS, per 100 bunches.....	75	@ 1 00
Tomatoes, per bushel.....	1 00	@ 2 00

TRANSACTIONS AT THE N. Y. MARKETS.

RECEIPTS.	Flour, Wheat, Corn, Rye, Barley, Oats
26 bus. disth this mon.	268,940 1,519,863 1,639,625 30,522 25,632 394,367
26 bus. ds. last mon.	334,978 674,565 2,079,922 26,558 23,288 481,931
SALES.	Flour, Wheat, Corn, Rye, Barley
26 business days this mon.	49,460 2,030,403 1,199,000 39,600 35,000
26 business days last mon.	410,210 1,412,100 2,231,500 38,600 10,200
Breadstuffs exported from N. Y., from Jan. 1 to July 18.	
1859.	1860.
Wheat Flour, bbls.....	328,790
Wheat, bush.....	21,907
Corn, bush.....	116,701

The receipts at tide-water of the principal kinds of Breadstuffs, from the opening of the Canals to and including the 14th inst., have been as follows:

1860.	1859.	1858.
Canal open—	April 25.	April 25.
Flour, bbls.....	293,600	166,700
Wheat, bush.....	9,912,700	4,640,400
Corn, bush.....	5,069,600	971,500
Barley, bush.....	75,700	149,700
Rye, bush.....	91,500	93,200
Oats, bush.....	2,926,900	1,866,800

A car load of new Spring Wheat was received at Chicago on Saturday, July 14, from Sterling, being the first of the season. The quality was fair, but it was damp, and on that account it was rejected. This is eleven days earlier than the first arrival of the crop of 1859, and about one month earlier than the crop of 1858. The dates on which the first receipts of Spring Wheat at Chicago took place for a series of years are as follows:

1860.....	July 14/1857.....	August 5
	July 25/1856.....	August 8
	August 12.....	August 8

N. Y. Live Stock Markets.—THE CATTLE MARKETS.—Receipts for past five weeks: 20,299, averaging 4,060 per week—a pretty good supply for the season. Prices were even lower than reported last month, until the present week, when with 3,951 bullocks on sale, an advance of fully 1¢ obtained. Selling rates July 18th: First quality 9½c. @10½c. per lb. estimated dressed weight: Medium quality 9c. @9½c. Poor 8c. @8½c. Average for all the cattle sold, 9c. This market closed heavily, however, the last sales being made at lower rates than the above.

VEAL CALVES.—Receipts are declining as the season advances. Total city receipts for five weeks past, 5,277, or 1,053 per week. Prices are gradually advancing. The best veals now sell at 6c. per lb. live weight: Fair calves 5c. @5½c., and poor ones 4c. @4½c.

SHEEP AND LAMBS.—Receipts for the five weeks just ended, were 56,707, or 11,341 per week. Prices have been kept up to last month's figures, viz.: 4½c. @5c. per lb. live weight for good to prime sheep, and 7c. @8c. for lambs.

HOGS.—Receipts for five weeks ending July 19th, 18,332. They have been sold at gradually improving rates, the last sales being at 6½c. @6½c. per lb. for corn hogs, and 4½c. @4½c. for still hogs, with a pretty brisk demand.

Thermometer at G. A. M., New-York.—[Observations carefully made upon a standard Thermometer (Fahrenheit) r indicates rain.]

JUNE.

1.....	60	7.....	62	13.....	60	19.....	62	25.....	59
2.....	60	8.....	62	14.....	62	20.....	60	26.....	64
3.....	61	9.....	56	15.....	62	21.....	55	27.....	72
4.....	62	10.....	56	16.....	63	22.....	55	28.....	66
5.....	61	11.....	55	17.....	64	23.....	59	29.....	72
6.....	60	12.....	58	18.....	62	24.....	60	30.....	72

JULY.

1.....	63	5.....	66	8.....	60	11.....	68	14.....	60
2.....	64	6.....	56	9.....	67	12.....	60	15.....	65
3.....	66	7.....	58	10.....	69	13.....	60	16.....	70
4.....	70								

The Weather since our last report, (June 18,) has generally been warm, and rather dry in many localities. There have been several showers, but generally not wetting the soil deeply. The continued dry weather was very favorable for securing hay and grain in good condition—we have seldom seen these crops harvested and cured in better order.—OUR DAILY NOTES, condensed, read thus:—June 19, heavy thunder showers during day and night, doing much good—20, shower—21, cool and cloudy—22, to 28 clear and hot, ground getting quite dry, but sprinkled by light shower on evening of 29th—29, 30, 31, clear and hot, but rain needed.—August 1, cloudy A. M., clear P. M.—2, clear and warm—3, clear A. M., cloudy P. M., with fine shower at night, which was much needed—4, clear A. M. showers P. M.,

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.

Thirty-three and one third cents per line of space for each insertion, (three lines for 1.) One whole column (145 lines) or more—\$40 per column.

FOR BUSINESS NOTICES Sixty cents per line.

FOR THE GERMAN EDITION ONLY.

Ten cents per line of space for each insertion.

One whole column (145 lines), or more, \$10 per column.

FOR BUSINESS NOTICES Sixty-five cents per line.

FOR BOTH EDITIONS—ENGLISH AND GERMAN.

Forty cents per line; \$45 per column.

FOR BUSINESS NOTICES Sixty-five cents per line.

Our Advertisements to stand three months or more, a discount of 5 per cent will be given for each month; 10 per cent off for 6 months; 15 per cent off for 9 months; and 20 per cent off for 12 months.

Teacher's Situation Wanted at the South.

A young man who has just graduated from a N. E. COLLEGE, desires to engage in teaching at the South. Abundant references as to scholarship, character, etc. Refers by permission to the editor of the *American Agriculturist*, to whose care any letters may be addressed, for J. W. D.

THE YOUNG FARMER'S MANUAL.

AND FARMER'S WORKSHOP, with 200 original illustrations, is one of the best books ever published for the use of farmers. It describes all the operations of the farm, and how to make, use, and keep in order all kinds of household and farm tools.

Catalogues of all kinds of Agricultural Books sent free to any address.

C. M. SAXTON, BARKER & CO.,
Publishers of the *HORTICULTURIST*,
23 Park Row, New-York.

CARBON OIL.—Carbon Oil is made from the NATURAL OIL WELLS of Pennsylvania, and excludes Coal Oil in its freedom from smoke and the brilliancy of its light. It burns in any of the coal oil lamps, and is for sale at the CARBON OIL COMPANY'S DEPOT, 191 PEARL-ST., New-York.

The New Wringing Machine.

For sale by DAVID LYMAN, Middlefield, Ct.

LE ROY & CO., Hartford, Ct.

and by our Agents of the Metropolitan Washing Machine, and WM. FAULKNER & SON, San Francisco, Cal.

NOT TO BE OVERLOOKED. EMIGRATION is rapidly tending towards the State of Michigan, not only on account of the offer of a free Homestead of 40 acres, of valuable farming land to any actual settler, but also because of the offer of any quantity of State land at \$1.25 per acre, with a term of ten years for payment. Further information given by RUDOLPH DIEPENBECK, State Commiss. of Emigr. of Michigan, 53 Greenwich-st., N. Y.

TREES! TREES! TREES!

For the Autumn of 1860.

The Subscribers, grateful for past favors, and encouraged with a larger and better assortment than ever, ask the attention of Nurserymen, Dealers, and Planters, to their immense stock of well grown trees and plants, comprising

APPLE TREES—Standard and dwarf, strong and healthy, with "King of the Pumpkins Co." and other good sorts in large supply.

PEAR TREES—Dwarf, a splendid stock, one, two, and three years; fine, strong and healthy trees, of the most appropriate sorts, on the quince.

PEACH TREES—Standard, a large and fine assortment of the most desirable kinds.

CHERRY TREES—Standard and dwarf, one, two, and three years, a large stock and beautiful trees. Early Richmond by the 100 or 1000.

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CURRENTS—Red and White, Dutch, Victoria, Cherry, and White Grape, with other sorts.

GOSSEBERRIES—Hougen seedling and best English varieties.

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FARM AND RESIDENCE AT MADI-
SON, Morris Co., New-Jersey. The subscriber offers for sale his residence, consisting of 161 acres of land, with fine improvements, including a Spacious Mansion House, Grapery, Fruit of all kinds, commodious Barns and Farm Buildings, Tenant Houses &c. Morris County is celebrated for the favorable effect of its climate upon Consumption, therefore it is well worth consideration. This property is an attractive one to Gentlemen of means. For particulars address the owner
ALFRED M. TREDWELL, 45 Fulton st., New-York City.
Madison is distant 1 hour 24 minutes from New-York City by Morris and Essex Rail Road.

THOROUGH BREED NORTH DEVON AND AYRSHIRE CATTLE. In consequence of above I offer for sale in lots to suit purchasers, my entire stock of Thorough Breed Cattle at reduced prices. For particulars address as above.

Farm for Sale. Great Inducements. A Farm of 82 acres in New-Jersey, convenient to Newark and New-York Markets by Rail Road, the land is excellent, well watered, and in good condition—with Farm House, Barns, Fruit Trees, &c.—the location is pleasant and healthy. The stock and farming utensils will be sold with it.
This is a rare opportunity for a man with large or small capital—as credit will be given—desired, for nearly the whole amount of purchases—money to a man who wishes to work out the cost—possession given now or later; for particulars address U. B. BREWSTER, JR., Box 362 P. O. New-York City.

A NEW WEEKLY PAPER.

On Saturday, 14th of July,
was issued in this city the First Number of

THE METHODIST, A WEEKLY PAPER, OF EIGHT PAGES.

IT will aim to be the exponent of Conservative principles, and will be thoroughly loyal to the Methodist Episcopal Church

While it will discuss with frankness and courage every subject of interest to the Church, it will avoid personal or direct controversy with existing Methodist Journals.

Upon the subject of Slavery, THE METHODIST will represent the views expressed by the Bishops in their late address to the General Conference. They are views of the application of Christianity to Slavery, which are believed to be sanctioned by Apostolic teaching and practice. It will resist all attempts, as the next General Conference approaches, to plunge the Church into controversy, or to make further encroachments upon the provisions of the Discipline in relation to Slavery.

Inasmuch as the subject of Lay Representation has been formally presented by the General Conference to the people for consideration, THE METHODIST will treat it as a question of moment to the denomination, and will open its columns for its temperate and loyal discussion.

It will represent no party, association, or clique. Its ample capital has been provided, apart from such combinations, by those who believe that the time has come for a larger, more thoroughly edited, and more independent organ of Methodism than its established Journals, with their superabundant official documents and other formal but uninteresting matter can possible be.

In fine, THE METHODIST will be an attempt, sustained by abundant means from the people themselves, to supply their families with an organ which shall compare with the largest and best journals of other denominations; which shall command the best literary ability of the Church at home and abroad; which shall represent fully and loyally and courageously its denominational interests as well as the interests of general Christianity; which shall be conducted with prudence and dignity, and be above partisanship and virulence; and which shall be a representative of the great religious interests of the age—a complete family paper, and a decided organ of the Church. It will be edited by the

Rev. G. R. CROOKS, D.D.,
and the Rev. JOHN MCCLINTOCK, D.D.,
the latter Corresponding Editor, and at present residing in Paris. The Editors will be assisted by an efficient corps of contributors, whose names will be hereafter announced.

A thorough, classified outline of the news from the leading Christian denominations, and of foreign religious intelligence, will be prepared by Prof. A. J. Schem, author of the Ecclesiastical Year Book. It will present also a Weekly Review of the Methodist press and of the New York city religious press. It will have a Weekly Summary of Missionary News. All the usual departments of general Intelligence, the Money Market, the Prices Current, Agriculture, Scientific, Literary, and Art Items, etc., etc., will be provided. Careful attention will also be given to the Youth's Department, which will be under the care of a special Editor. Its criticisms of new publications will be prepared with discrimination, so that they may always be safely relied upon.

Terms:—Two dollars a year: five copies, to one address, \$9; twelve copies, to one address, \$20; twenty copies, to one address, \$30. Subscriptions received for six months at the same rates. Payments invariably in advance.

OFFICE, NASSAU BANK BUILDING, NO. 7 BEERMAN ST.,
NEW-YORK.
L. BANGS, Publisher.

COURT OF DEATH.

The subscriber has issued a large and very beautiful CHROMO LITHOGRAPHIC ENGRAVING of Rembrandt Peale's celebrated painting of the Court of Death. This painting has long been valued at

25,000 DOLLARS,

and is one of the most impressive and beautiful moral lessons ever put upon canvas. The Engraving is a FAC SIMILE COPY of the original, 23 by 31 inches in size, printed in oil colors.

The original painting (and engraving) contains 23 figures, representing DEATH (as a Judge in shadowy obscurity) with his various Agents around him. WAR, FAMINE, PESTILENCE, CONFLAGRATION, SLAIN SOLDIER, WIDOW AND ORPHAN, SENSUAL PLEASURE, INTEMPERANCE, REMORSE, DELIRIUM, SUICIDE, and the AGED SAINT, SUSTAINED BY CHRISTIAN FAITH. While the lessons inculcated by the picture are impressive, they are attractive and pleasing—such a picture as every family desires as a parlor ornament.

The regular price for such or similar engravings, in this city, is \$5—and at this price only about 5,000 copies can be sold—but the subscriber has undertaken to sell 100,000 copies of the Court of Death at \$1 per copy! By thus increasing the number, the price is reduced.

No Engraving has received more hearty and unqualified praise than this, from Clergymen, Connoisseurs in Art, &c. That it is a correct copy of the original painting, the following testimonial from Mr. Peale will show.

PHILADELPHIA, Nov. 16, 1859

I have seen the Chromo-Lithographic Engraving of my Painting of the Court of Death, recently executed for Dr. G. Q. Colton, (the present proprietor,) by Sarony, Major & Knapp, of New-York, and can certify that it is an accurate and admirable copy of the original Painting.

REMBRANDT PEALE.

TERMS. Upon the receipt of \$1 by mail, one copy will be forwarded, post-paid, or 5 copies for \$4. A full description will be sent with each engraving. Agents supplied on the most liberal terms. An active agent can realize from \$300 to \$500 per year in the business. A letter of Agency (stating special terms), with one engraving, will be forwarded on the receipt of \$1, and six letter stamps. Engravings sent by return mail, in a strong case.

From the New-York Observer.

"Mr. Colton is a responsible man, and our friends may feel safe in sending their money for his picture."

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Address

G. Q. COLTON,
No. 37 Park Row, New-York,
P. O. Box 359.

FOR BOYS.

A NEW FEATURE IN SCHOOL INSTRUCTION. A Family School limited to 20 pupils, and combining Horticulture, practical as well as theoretical, with Mental Discipline and Moral Culture.

Prof. WM. HOPKINS, for a long time Principal of the Auburn Academy, N. Y., but for the past six years, Professor of Chemistry and Natural History in Genesee College, Lima, N. Y., will open a Boarding School for Boys, at Metuchen, N. J., Tuesday, Sept. 4th, 1860. The number will be limited to 20, and each child will be bound to render the School select in character and results. All the aims and adaptations will be to import the highest—the most thorough and comprehensive culture in every department of Education, pursued in the best schools in this country.

The domestic arrangements, also, will be ordered with the view of constituting a happy family and a pleasant home.

The feature of Horticultural Education will, it is believed, commend itself to public favor. Special facilities for improvement in Horticultural knowledge, theoretical and practical, will be afforded, while at the same time the pursuit of it will not be allowed in any way to interfere with the regular schoolistic studies of the boys, nor will any time be taken from its pursuit. Prof. H. will have a few acres of ground devoted to the growth of fruits, in which he has had much practical experience, and for the favorable prosecution of which, his professional life in the past has peculiarly fitted him.

The location selected is most favorable to the enterprise. The village of Metuchen is situated directly on the New-Jersey Railroad, 27 miles from the City of New-York, and 60 from Philadelphia. The place is noted for health and pleasantness of location. The inhabitants are moral and intelligent. There are no haunts of public dissipation, and therefore parents need not fear in respect to temptations peculiar to large cities and villages.

The scholastic year will be divided into three terms of 13 weeks each. The first will commence Tuesday, Sept. 4th, 1860, and continue till November 24th. The beginning and closing of subsequent terms will be announced hereafter.

Terms of admission are \$250 a year, one half of which must be paid in advance, and the balance at the close of the term or year.

Able and accomplished assistants will be employed in all the departments.

Frequent lectures and experiments in the various branches of science will be given by Prof. H. In addition, the Rev. Messrs. THOMPSON and PHILIPPE, clergymen in the place, will give occasional lectures. The former will give a course during the first term, on Moral Philosophy.

Prof. HOPKINS is permitted to make use of the following references:—The Faculty of Genesee College, Lima, N. Y.; Prof. C. DEWEY, President of the Rochester University, Rochester, N. Y.; D. T. MOORE, President of the Rural New-Yorker, Rochester, N. Y.; Dr. S. B. WOOLWORTH, Secretary of the Regents of the University of the State of New-York, Albany, N. Y.; B. P. JOHNSON, Esq., Secretary of the N. Y. S. Ag. Society, Albany, N. Y.; Wm. F. PHILLIPS, Principal of the State Normal School of New Jersey, Trenton; H. IVISON, Esq., of the firm of Ivison & Phinney, New-York City; Dr. J. M. HOWE, New-York City.

Metuchen, N. J., 1860.
WM. HOPKINS.

Circulars may be obtained of the President as above, or in New-York at the offices of the American Agriculturist, and Horticulturist, and at Ivison & Phinney's.

HAVE YOU A SON OR DAUGHTER TO EDUCATE?—Send for the new Catalogue of the Fort Edward Institute, N. Y. Superb brick buildings: 18 teachers with the best facilities in every branch of Commercial, Classical or Ornamental study. \$36 for 14 weeks. Term begins August 23d. Address Rev. JOSEPH E. KING, Fort Edward, N. Y.

Granville, Ohio Female Academy.

THE 27th ACADEMIC YEAR will commence on Thursday, the 13th of Sept. next. The highest educational advantages are afforded, both in the solid branches and also in the ornamental ones, viz.: Music, Painting, Drawing, and Languages. \$14 will pay all expenses for one year for tuition and board, including washing, lights, fuel, and furnished room.

GRANVILLE FEMALE ACADEMY.—This Institution which has been in operation 26 years, has become one of the best of our schools for the thorough and christian education of young ladies. Its location is healthy and moral, and the expense is much less than the Eastern Seminaries. It is, as it deserves, in a prosperous condition.—*Ohio Repository.*

For catalogues and further information address Granville, Ohio, July, 1860. W. P. KERR, A. M., Principal.

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It Tells You The legal relation existing between GUARDIAN and WARD, MASTER and APPRENTICE, and LANDLORD and TENANT.

It Tells You What constitutes LIBEL and Slander, and the Law as to MARRIAGE DOWER, the Wife's RIGHT in PROPERTY, DIVORCE and ALIMONY.

It Tells You The Law for MECHANIC'S LIENS in every State, and the NATURALIZATION LAWS of this country, and how to comply with the same.

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A neat pamphlet of 32 pages, containing the condensed but plain directions of Seventeen practical Onion Growers, residing in different parts of the country; and embracing full directions for every item of labor from selecting seed and preparing ground, to harvesting and marketing crop. Nowhere else can so full, complete, and useful information on this subject be found. Sent post-paid, on receipt of 21 cents (or seven 3-cent stamps). Address

PUBLISHER OF AMERICAN AGRICULTURIST.

ITALIAN BEES.

A CARD.

I notice in the American Agriculturist for July the following alleged certificate:

"This may certify that I have examined the Italian Bees produced by Mr. Kennedy, which he procured of Mr. P. J. Mahan, and pronounced them pure and equal to any imported or owned by Mr. S. B. Parsons. (Signed.) A. BODMER, New-York, June 4, 1860."

I have only to say that I have given no such certificate, or any certificate whatever to any person whatever. I have given my address to several persons. If anything has been written over that address, I am not accountable for it.

A. BODMER, Beekeeper to Mr. Parsons.

Witness, T. R. TRUMPF.

P. S. I have heard it rumored that Mr. Kennedy threatens to publish an affidavit that I did sign the above certificate. An affidavit may be easily made as a certificate. Mr. Kennedy was at Flushing a few days before the date of the certificate, and asked me when I would be in New-York. I told him I must see a friend in Brooklyn on the following Sunday.—The date of the certificate is evidently made to conform to this information. My friend, the German Pastor, knows that I was with him all that day, except when on the road. I am a foreigner, and do not understand how such statements can be believed respecting me.

A. BODMER.

Witness, E. A. BRACKETT.

ITALIAN BEES.

STATE OF NEW-YORK. { Samuel L. Kennedy, of
City and County of New-York, } ss the City of Brooklyn being
duly sworn, deposes and
says, that some time in the month of June last he heard A. Bodner say, that the Bees which P. J. Mahan sold L. W. Kennedy where as good as any Mr. Parsons had. Deponent further says, that said Bodner at the same time gave to said Kennedy a certificate, signed by himself, to that effect. Deponent further says, that before signing said certificate, the contents were fully explained and understood by said Bodner; and deponent further says, he has no interest whatever in said Bees.
(Signed) S. L. KENNEDY.

Sworn before me this 5th day of July.
A. B. M. W. KENNEDY, Commissioner of Deeds.
The interested efforts to injure my business must fail—see the
Country Gentleman of the present week. P. J. MAHAN,
No. 720 Chestnut-st., Philadelphia, Pa.

THE GREAT AUSTIN SHAKER
SEEDLING STRAWBERRY.

THE LARGEST STRAWBERRY IN THE WORLD.
Amateurs consider this Seedling the greatest acquisition to our small fruits ever introduced. A monster in size, wonderfully prolific, and of the finest flavor. For particulars see *Agriculturist* for May. We are now prepared to take orders to commence delivering plants in August, in rotation as ordered, at \$1.00 per doz., or \$25.00 per hundred.

Address either
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WM. S. CARPENTER, 468 Pearl-st., New-York.

We the undersigned having ordered largely of the plants of the Austin Seedling Strawberry, subject to a countermand, if not satisfied when seeing the fruit and plants in bearing, were induced to visit Waterville, where it originated, and see for ourselves the true condition of this variety. We found it growing in the most common way, in masses, and not in hills, without any particular care, and much injured by the drought, yet the great productiveness, and uniform large size, and fine flavor induces us to consider the Austin as one of the best varieties in cultivation, and a great acquisition to our small fruits. We found the Austin averaging considerably larger than the Wilson, and about as productive, and from appearances will continue to fruit to July.

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JAS. L. LOCKWOOD, Stamford, Ct.
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The subscriber will now take orders for the following new varieties:

AUSTIN, \$4 per doz., or \$25 per hundred.
ATHENS, a superb seedling from Easton, Pa., very large and
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EXCELSIOR or DEPTFORD, white, a new seedling, the best
white known, as large as the Wilson's Albany, and fine
flavored, perfectly hardy, per doz. \$1.

DELUXE or LUCILLE, a new variety, very large and late,
BOYDEN'S MAMMOTH, per doz. 1.00.
fine, \$1 per doz.

VORIS QUEEN, originated at New Rochelle, considered
there one of the finest of all the strawberries, very large,
fine, and productive, per doz. \$1.

STATEN ISLANDER, a new seedling of great promise, very
large, prolific, and of the finest flavor, per doz. \$1.

Also WILSON'S ALBANY, at \$1 per hundred, or \$8 per
thousand.
WM. S. CARPENTER,
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The Subscriber, having thoroughly tested this new strawberry for some three years past by the side of the most esteemed known varieties, can confidently recommend it as one of the best, either for the garden or market. It is a large variety, flowers perfect, nearly as productive as the Wilson, but every way superior to it in quality. Its firmness and fine crimson color will give it a high place as a market fruit, and it is believed that the Bartlett Strawberry will be found among strawberries, when the Red Pear is out of season, an indispensable variety for general cultivation.

Price \$1 per dozen; sent free by mail \$1.25 per dozen. Per
hundred \$3.00. Address ANDREW S. FULLER,
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Strawberries! Strawberries!!

"By their fruits ye shall know them." What strawberry shall I plant? Why the Wilson's Albany—Why? Because it is the most productive, the largest, and finest berry out. In fact it is the "fashionable" berry.

Originated at the Albany Nursery, where plants can be purchased by addressing JOHN WILSON, Albany, N. Y.

Price per 100 plants.....\$1
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Wilson's Albany Seedling.

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Strong, selected new plants of these desirable varieties, warranted true to name, carefully packed so as to insure safe transportation for any distance at \$7 for 1000; \$4 for 500, or \$1 for 100, for sale by WM. RICHARDSON,

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Raspberry and Blackberry Canes—all the desirable varieties for sale.

THE SUBSCRIBER OFFERS FOR

sale the following varieties of strawberries, which he warrants pure and genuine.

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Refers to the Editor American Agriculturist.

E. R. Cooper, Cashier Market Bank, New-York.

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Early White Dutch	... per lb.	\$0.75
Red Top Strap Leaf	... do	75
Red Top	... do	75
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Large White Norfolk	... do	50
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Also,		
Round and Prickly Spinach, each per lb.		50
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Purple Top Rutabaga,
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GARDEN, FLOWER and FIELD SEEDS, of all varieties. CORN—King Philius, Early Dutton, and all other varieties. SEED BUCKWHEAT, extra clean. Send for a Catalogue containing a full list of seeds and prices. R. L. ALLEN, 191 Water-street, New-York.

RUSSIA OR BASS MATS, SELECTED
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Send for a circular.

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Failure of Seeds—The New Rochelle Blackberry Seed.

A large number of seeds of various kinds have been forwarded to us from different parts of the country. With few exceptions these have all been carefully planted; but we are sorry to report that very many of them have failed to vegetate. The excessive drought has had much to do with this failure. Many of our own seeds, which were proved to be perfectly good by previously starting them in pots, have entirely failed when planted out in the usual manner. Indeed, we have lost more seeds, plants, and trees, the present summer, than in all our past experience; and we are now obliged to use hundreds of buckets of water every week to keep our trees and plants alive even, to say nothing of losing the usual new growth of the season.

The New Rochelle Blackberry Seed sent out by us last Spring to a large number of persons all over the country, we are sorry to learn has, in some instances, failed to vegetate thus far. This has probably resulted from the dry season, or from allowing the seeds to become too dry before planting. As the seeds were without doubt sent in good order, having been secured with special care, the probability is that some of them may lie over in the ground until next Spring, as is frequently the case with wild seeds. However, to make assurance doubly sure, we will gather a lot of fresh seed as soon as the berries are ripe this season, and forward a parcel to those whose seed has not yet vegetated—if a ready directed envelope be provided for enclosing the new seed. The new seed can be planted as soon as it arrives, covering it with not over half an inch of fine earth. When thus planted fresh, it can hardly fail to start this Fall, or in Spring at the latest.

Strawberry Markets.—Cincinnati, which has been considered the largest hog and strawberry market in the world, will have to look to her laurels, or San Francisco will bear the palm in the strawberry line, at least. Only think of a strawberry patch of 80 acres, from which the proprietors sent in from 2000 to 4000 pounds of berries, daily, during the strawberry season, according to a statement in the *California Farmer*.

Novel Strawberry Protector.—An Eastern exchange mentions an ingenious method by which a gentleman saved his strawberries from the daily attacks of an army of robins. He killed a worthless cat, skinned and stuffed her, and having fitted in glaring glass eyes, he mounted her in the center of his strawberry patch. Although the robins continued to congregate upon the fence and trees near by, and scolded incessantly, none of them ventured upon the patch again. Perhaps the same *scare-robin* would save the cherries. It is worth a trial, particularly where cats abound as they do on some premises at night.

Agricultural Reading Room.—The Chester Co., (Pa.) Agricultural Society have fitted up in good style, an Agricultural Reading Room for the use of their members. The advantages of this arrangement are obvious. Although every cultivator should have a select library, many valuable works are beyond the means, or are inaccessible to private individuals, who would cheerfully contribute for the privilege of consulting such books from time to time as they might need. Such a room becomes a center point for the diffusion of information, and headquarters for local agricultural meetings, discussions, and interchange of opinions. The example is a good one, and will, we trust, be generally followed.

Price of the New "Wringer"—Correction.

In the description of this new implement, on page 247, (which was written without the knowledge of the manufacturer,) the retail price is stated at \$8 in a part of the present edition. This we learn is wrong; and to avoid difficulty, we make the correction here, as the inside sheet is partly printed. The price is \$10. We were led into the error by noticing that when sold with the \$10 washing machine, the two are put at \$18.

Notes on Postage.

No Postmaster has any legal right to charge over Six CENTS a year postage on the *American Agriculturist*. The paper is manufactured expressly with reference to having each number weigh a trifle less than three ounces, when weighed dry and without the wrapper, as the law directs; and the law is explicit that periodicals weighing not over three ounces, shall be charged one cent each, if sent singly, and only half this rate when the postage is paid quarterly in advance at the office where received.

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